

# MADRAS GOVERNMENT MUSEUM

EDITED BY THE DIRECTOR OF MUSEUMS

DESCRIPTIVE CATALOGUE OF THE BUTTERFLIES

IN THE COLLECTION OF THE MADRAS GOVERNMENT MUSEUM

BY

S. THOMAS SATYAMURTI, M.A., D.SC., F.Z.S. (Director of Museums (Retired), Madras Government Museum)

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## DESCRIPTIVE CATALOGUE

OF THE BUTTERFLIES

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S. THOMAS SATYAMURTI, M.A., D.SC., F.Z.S.

(Director of Museums (Rethrol), Medicus Government Museum)

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## DESCRIPTIVE CATALOGUE OF THE BUTTERFLIES

COLLECTION OF THE MADRAS GOVERNMENT MUSEUM By S.T. Skymmurd, HA. Dag. P.Z.A.

(Director of Museums (Refried), Government Museum, Madras)
INTRODUCTION

#### India has been appropriately described as the butterfly-collector's narotice, and

perhaps no other group of Leants in Insite has been no unhantively studied and described so burstlede ser. The rich and fancingstay everyty in their form and sizes, and the purposas spinndour of their colour and posterns of colour markings have attended both the emission naturalist and the professional consocient, and the popular interest which the group has about account of an even in a targe measure respectable for the other colour studied and the colour studied and the colour studied and structure assembled of the accounts. Do by popular and describe, on the large and structure assembled of the colours.

Tailed, in his values on Butterflee, in the Faure of Settish trids series (second edition, 1929), has outlined briefly, yet thoroughly, the history of the previous work done on butterflies in this country, in his introductory chapter. He has listed therein almost ell the important publications on the butterflies of India and to this list may be added the society monocraph on the Butterflee of the Indian Region by Wynter-Birth. published by the Bombey Natural History Society in 1957. One might wonder whether in view of all this exhaustive literature, there is now real need for a descriptive outsloone of the kind that has now been complied. Although it should be admitted that there is very little scene for any original work on the systematic study of Indian Lepidopters, wit it was considered processes to before out a catalogue of all the appears of betterfles to for represented in the collection of the Madras Government Museum, in order to make the reflection of this Museum better known arrows the other Museums and scientific tratitutions both in India and abroad. But at the same time it was felt that a well that rated and description outsides will be much more useful than a more handlest of names. Annin almost all the author works including the witurnes on butterflies in the Fourse of British India series have dealt with butterlike of the entire Indian Region, and as most of the species described therein are french public to Assert Sibbiro Shatan and other areas in the far porth, the student wishing to concentrate on the identification of South Indian butterflies often facile considerable difficulty in senting thereads the entire. range of exectes before he is able to determine the South Indian exectes. As the Medrae work will serve more or less as a guide to South Indian butterfles on which there is no convenient bandlook at arrant. If was malely these considerations that reconstel the author to compile the recent outslogue in the descriptive and illustrated form in which If has exceeded, and incidentally, when the measurements of the wing exceede of the sovertreem to the collection were convened to the exterior records for the corresponding species, it was found that in many cases the measurements were above or below the meatrum and ministrum recorded expense for these particular apacks, thereby establishing new records in the range of expense for these species.

Regarding the atructure, waterion, distribution, ecology and methods of setting and preserving burnerlies. Talbot and Wonter-Sibth have given exhaust by accounts in Sheld respective publications cited above, and it is therefore needless to repeat them here. The classification adopted in the present catalogue is that adopted by Wynter-Blyth.

This is the same as that followed by Talbot in his volume in the Fours of British India series (Molecus II) for Parallipoides and Plantine on this is the reset on to date element work on Indian butterflies, belonging to these families. For the remaining families, the charaffection followed by Founa in his "Montification of bullan Sutterflee" has been followed. in identifying butterflies, it is necessary to remember that there is considerable

seasonal and individual variation in many species of butterflies. Hence it is necessary to confirm the identifications made with the help of descriptions by checking the locality, also, habit and other details before one can be sure of the identification. In order to identify a butterfly correctly, one has to become conservant with the

attraction of the winds of the horizofts and their arrestion, and with the various description terms applied to the different part of the wings.

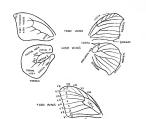
The terminology of the various parts of the wing and its venetion is illustrated in the The mulatity of the specimens represented in the Museum collection are from

localities in South India although the general range of distribution of the species to which they belong usey be much wider, extending into localities in North India, even as for as the Himsleyes, Assem, Silócim, Bhutan, and sometimes even to Burms and Maley Protocula. In South India, it is the hilly regions, such as the Nilstria, Pulpey Hills. Western Chate etc. that are particularly rich in harterfles correctly those of the

inner, more colourful and attractive apocine, but a lense pumber of species occur also in The total number of previous of betterflies recorded from the Indian Rector is about 518 and out of these, the distribution of about 265 species extends to South India. The

number of species of butterfires found exclusively to South India is about 45, most of which are found in the hilly regions such as the Nilgiris, Pulney Hills and Western Ghots. The sumber of species represented in the collection of the Madora Government Museum most cases to North India and sometimes even beyond Indian limits. In a large number in the systematic descriptions of the species in the present catalogue, the wing

measurements mentioned under the head "Specimens in the collection" for each species



DIAGRAMS ILLUSTRATING THE TERMINOLOGY OF THE VARIOUS PARTS OF THE WINGS AND THESE VENATION IN SUTTEMPLIES. (V. Voir) DEV Deposition ris)

HIND WINS Y

is the average of the largest and the resoldent of the specimens, where there are more than two operimens. In the case of specime of which only two specimens are represented, it is the average of these two, and in cases where there is only a single specimen, it is measurement of this single specimen is mentioned. Special mention is made of specimens which measure either less or more than the inflations or made unit or recorded

expense respectively, for the particular species.

The Birculars on this object is very extensive, and sport from atomized description works need to legislation and the Fason of British India volume on Butterlaw, which are legislation between the Barration of British India volume on Butterlaw, memorans propries have been published on Indian between Bellings, making in the Journal of the Berday Natural Halancy Society, Records of the Indian Messeurs, Journal of the Assets Society of Deepla and the Proceedings of the Society Society Genetics, and

abridged bibliography on the subject, listing series of the sandard monegraphic works and a selection of the more important represent, supported our list set of of the possessi paper, but further redesences can be readily tuned by the reader from the sectuards bibliography in the latest odition of the volume on Butterflies by Talbot in the Fourse of Biblioth bells series.

Courte for Zeology. See the assistance in recorrenging the collections, projecting the spottermatic that of the species and shading the viden recoverments of the a spotterma in the collection, to Mina. A. Vinaska, Scener Assistant Quester for Zeology, for law resistance in the talk programmer of the StillAnguiput, and index, and to Six RM. Meganisham, Artistmodelize of the Owercovert Massaum, Madrian, for the cone and skill with which he has repeared the coloured Statistantics for the tappers.

#### (Adapted from Tailbot's Fauras of British India volume on Butterfiles, and Wynter-Brytis "Butterfiles of the Indian Region."]

1. Focusing with with Thronds. Antonous cleanly approximated highest at base "approximated highest at these Factoring with all views writing from the cell. Antonous with a looked club Baparis at laws and office with a looked club Baparis at laws and follow with a looked club Baparis at laws and from with a looked club Baparis at laws and the work of the second club and the second clu

Large, heightly coloured butterfless with the hind wings often tailed ... Papilionkies.

## leaver marries of hind wing not channelled to receive the abdomen.

white or vellow, hind wine news tailed 5. Possings teaperfect in both season · Foreless imperfect and brush-like in the male, perfect and developed for well-true to the freezie. Moderate alred manufactor

brown or tawns, with the hind wing often toethed or tailed ... Erycinidae 6. Both wings with the cell closed (i.e. cross voice are present)

2. Fore wine with weln I a florked with your I bills, weln I runs

into the modium vote at the basel. Large, dark brown or

tweny butterflice, often shot with blue and streaked or spotted ... Danaidse. 5. Fore wing with one or more wins inflated or swellen at the base descript in a few many). Normally analysi setute, and anothed. Mediza-stred dark brown butterfiles with oceili on the wings . Fore what without any win inflated at the base. Whose enemely

Fore wing with vein I a free (i.e. vein I runs free into the base) ... 8

collection. Family PAPILIONIDAE. Genus Treider Hubner. Troides helena minos (Cramer) (2). Conus Potreorus Syminson. Probational Agency (Literature) (1.5) Polydonus artistolochiae (Pabrictus) (7)

SYSTEMATIC LIST OF THE SPECIES AND RACES OF BUTTERFLIES REPRESENTED IN THE COLLECTION OF THE MADRAS GOVERNMENT MUSEUM. Note: The figures mentioned within brackets against each species or sare indicate the transber of specimens of that particular species or mor present in the Museum

Hind wine with the cell open (i.e. cross voins absent).

scaled and spotted. Brick-red or yellowish bown butterflies, with elements whose and abdomes. 9. Pelpi small, nervew and sharp in front. Large, broad-winged trafferties with the costs of fure wing strongly applied and entennes gradually enlarged to a narrow club Palot large, broad and rounded in front. The cell of the fore wing usually open. Moderate-stand, usually coloured butterflies of very varied abase and appearance. Azitopnee much more abmostly enlarged to a clob

Hird wing with vein 1 a always present. Moderate-stand, usually .. 6

.. Pierkine

.. 9

... Setyriden

... Nymphalidae

Genna Chilless Moore.
Chilesa ciptia ciptia (Linnessa) form ciptia Linnessa (1)
Chilesa ciptia ciptia (Linnessa) form dissimile Linnessa (3).

Chilara clytic chilia (Liumeous) form dissimilir Liumeous ( Genus Papillo Liumeous.

Papillo polymenator polymerator Cramer (6) Papillo perio tandisisi Moore (3). Papillo prior Enhitetra (3).

Papitio basishs Westwood (1). Papitio descridarum Wood-Mason (1)

Papillo helentus dakaha Moore (8), Papillo polytes romaius Cramer (8), Papillo demoleus demoleus Linnaeus (14)

Popilio demoleus demoleus Linnaeus (14) Genus Graphium Scopoli (« Fathyas Reakirt) Graphium namius namius (Esper) (1).

Graphium antiphates naira (Moore) (1). Graphium surpedon teredon (C. & R. Felder) (11)

Graphtum dozon eletsz (Fruhatorfer) (10) Graphtum apamensson mendes (Fruhatorfer) (8)

Graphham cionsthae (Westwood) (1).

Parelly PIERIDAE.
Subfacely PIERINAE.

Genus Leptosia Hübner. Leptosia nina nina (Pabricha) (9)

Genus Aporta Hilbner

Aporta arustegt Lamarck (Guropean species) (2)

Aporta isusodice soructa Moore (1).

Aparta lescodice soracia. Moces (1).

Genus Delitas Hülterer

Delitas cucharis Desay (10)

Delitas Stupter Aurollius Dollerty (3)

Deltas discombed lessouantha Prubatorier (1). Genus Cepara Hilberg.

Genus Cepera Hilberg, Cepora nerissa Physic (Fabricius) (11) Cepora nadina remba (Moorel (2)

Cepara modina remba (Moore) (2) Genus Prizmeria Wollson, Prioneria atta (C. & R. Felder) (2) Genus Amerbeis 100 tree.

Anaphels earcte earste (Paletetus) (7) Genus Apples Hubert.

Appeas issue lakes (Doubleday) (1).
Appeas issue lakes (Doubleday) (6)

Apples Index Aliza (Switches) (6) Apples Highes Rhythes (Patricias) (2). Apples Ignelds (sprobans Moore (1).

Appine lynckia latjiasetala Moore (2).

Applea lyncids electors Boledavid (1) Apptox oftring darseds (C & R. Felder) (17)

Applica second (Moore) (1) Genue Pieris Schmank. Morte combine comin Europe (A) Plents cultidae kalona Moore (1)

Pierts rapor (Linnaeus) (4) Parts raci ataks Moore (2)

Gerron Pontia Pabrictus. Postia duplidice monet (Rober) (2)

Genus Inias Hübner.

Cotatte (transle (falcie (Wnifece) (1)

Islan marianne (Cramer) (4) bias pyrene sesta (Fabricius (F)

Gerrae Colotte 1915/per. Colodia coloda moderatus (Statler) (5) Genus Hebomola Hübner.

Hebernois glassippe sustralis (Butler) (3). Gensas Valenia Horsfield (« Pareconia litorham). Valeria ceptanica ceptanica (Felder) (2) Valeria paleria Atania (Fabrictus) (2) Genus Catecodia Huber. Cotocodia consile especie Cratter (22) Cotonello parenthe paranthe (Utenseus) (24) Genus Gonepterys Leach. Gasestenia rhassit madensis (Linneeus) (3): Gersss Eurema Hibner. Eurema briotta Corner (7). Eurorea heophe ziruzkio (Moore) (191. Genus Cellus Fabricius. Collar erate erate (Esper) (3). Partily DANAIDAE. Gerrie Hestia Hilbney. Meritia funorus mafabaricus (Moces) (2).

Danois chrystopus (Lineseus) (12) Danois mellesa drassdarum Frahatoefer (8), Daneis asies asies Cramer (Si.

Danais pligiriensis Moore (4) Gerrae Euplosa Fabrichas.

Family SATYRIDAE.

Euploog kulleri Felder (2) Genus Mecalesis Hibber.

Explore core core Cramer (35) Eunipea coreta coreta Godart (3)

Manufests assertes Heattern (1). Mucalcute persons (aphine Fruhetorier (5). Mysolesta stasia alseia Mocre (2) Manaleum exhibita Moore (3). Manaleste irhania ochra Evana (2). Managests adolphet Guerto (1). Mycolesis oculus Marshall (2). Mypaketa petrás tuposta Dutier (1). Gentus Lethe 192bner. Lethe europa ropalita Fruhrtorfur (4). Lethe drypetis todara Moore (3). Lethe robris effet tennie Guerto (6). Gerrin Tethiese Hithree. Ypühing asterope mahrata Moore (1). Yjekhne ekensi Guerto Meneville (2) Yaching neuloning Headison (2). Ypthing hubbert hubbert Kirby (4). Perhing avanta sinoala Felder (1). Ypthing philomela tabelli: Marshall & De Nicoville (1). Ypohime beidus madrana Evens (5). Germa Zienetta Heartteon. Expects softs Hewtson (3). Germa Oppotrisena Wallengren. Orastriorna medias mendiata Moces (1).

Genras Melandide Pabriches. Melantita lesis tamene Centaer (14) Melandia elardian membe Moore (S). Genras Etymoles Hüberr.

Genus Nytha Bilberg. Matha hermina Usnoma (II)

Family AMATICUSIDAE.

Genry Disconhers Delectron Disconhera leptda leptda (Moces) (1)

FAMILY NYMPHALIDAE.

Group Charaves Orbansheimer. Characes polymbia twos Botler (1). Charges Stone Situs (Patrictus) (1).

Gerroe Bribons Moore. Eriboro othomas parentu Swinbor (2).

Garren Anatura Pebrictes Appliant portotis otochus Prubatorier (4). Gerren Eurigen Westwert

Euripus constrelle meridionale Wood-Moson. Geron Buthelle Hubrer. Esthalis lepitea (Butler) (3)

Exthalia agrada (Mocre) (2). Eutholiu nois Foster (2).

Genus Parthence Hubber. Genzas Liznenitia Fabrichus.

Limeniës procede undifereux Probatoefer Genus Pentoporis Hubber. Postaroria sofrenzione Amoste Posta (1). Pontagria pertus (Lipposeus) (2)

Genera Needle Pabrictus. Neptle columette relativa Moore (1). Nestis tumbbo tumbbo Moore (1).

Neptie hydex parmona Moore (10). Nuntte sarva knilpura Moces (LL Neptte bordenia hordonia Stoli [1].

Genue Cyreetie Boledaval. Currette Havelanusy Indian Pages (4).

Genus Hypolimas Habner. Hupolitynas boline (Linnasus) (8). Hypothysau misippys (Literatus) (5).

#### Gerron Kallima Doubleday. Kallina inachas (Boledurel ) (3) Kalibras abdambus (Westwood) (1)

Gerron Preofe Hulmer. Preces hierra hierra Pabrietas (7) Precis crittya autshori Butler (12)

Precis Jemonice salsus Pruhaturier (2) Precis critics (Johanneen) (5)

Genus Vancees Fabricius. Vances cards Linneus (5) Vancesa indica phoise fruhetorier (2)

Vancent carace stridle Evane (4) Vanessa Galbum cognata Moore (3)

Onnue Augmente Paletichan. Argunals Asperblus contest Oberthur (3)

Amuninto actata (Linnamus) (2) Argumate indivents (Linconness) (5) Genus Atalia Doubledey

Atello pholostha (Drury) (7) Adello pilicippe merceo Erome (1) Germs Melitaen Fabrictus. Mrittora diduma (Esperi (3).

Genus Cuphs Differg Cupto enumenthis mote Probatorier (7). Gerron Crestition Fabrician

Cunthis crots selens Swinbor (6). Germa Circochroa Doubleday. Cirrochron thate these Prubatofer, (6). Genne Ryblia Hübner.

Bubbs (Strong (Decemb) (2)) Genus Breolie Boledaval. Ergotte ariadne (Johnneson) (7). Eroolis sterious merione (Consser) (4).

Emple meeting tyrophysis Westwood (4): Fundly ACRAEIDAE Genne Telchinia History. Telchinia violae (Fabricius) (15).

#### · Family ERYCHIDAE

Subfamily LECTHGENAE.

Genus Litythea Fabricius. Libschen wurzeh oarren Probetorfer (fil)

Subfamily RIODINAL Gerran Ableam Felder.

## Abinary enhering ammong Moore (2)

Subfamily LYCAENINAE.

Spelatr epita cotor Westwood (1).

Genna Tellicada Movee. Tellcode rescus rescus Guerta (4)

Genus Castallus Hoboer. Casasilas rosinos rosimos (Fabrictus) (7).

Custofius caleta (Hawteco) (1).

Genus Syntarucus Moore.

Genus Amenus Moore.

Apanus Iceous povro Lederer (1).

Cerus Neopithecope Distont. Moopthecops poliners Butler (1)

Genus Everes Hittper. Exercis purrhostus porrhostus Fabricius (2)

Genus Lycsenopsis Felder Lycaenopuis puspo gisco (Fruhatoritri (6))

Lucarnecule albidisca Mocen (5). Lucyanianals Berkele Berkele Moves (1)

Gerun Chilades Moore.

Gersin Zincerts Moore. Zineerta (mobiles math Keller (1).

Steerta lysimon Hilbner (1). Streetia oalka Trimen (1) Zimeria otis decreta Butler (4).

Genus Explorações Surber

Dictrospe partiers pendage (Norsfield) Geroom Catonberrages Sylvhysel. Cotochrysops strates (Peterteins) (5).

Lamphies hostocis [Linguauxs] (6). Germa Jamides Hübmer. Jamides bochus bochus Conner (1). Jamides ochus bochus Conner (2).

Jamides etpts eurgesces Franktoefer (1). Genus Necadaba Moore. Macadaba nors Pettler (5).

Nacaduba narela hampsoni De Nicertile (1). Subfamily THECLINAE.

Gensu Curetie Hitter. Curetie theths Drury (8).

Ceresto dello Drury (8).
Genus Essata Moore.
(Nosta dissolven timoleon (Stoli) (1).
Genus Amblyuedia Horsfield.

mus Amblypedia Hondeld. Amblypedia amentes amentes Howiteon (2). Amblypedia basolaides Howiteon (1).

Oerus Lomm Hondrid.

Lomm alymnus armaia Moore. (2)

Lanna atymus armais Moore (2)
Lanna atymus surja Moore (1).
Gerns Spindasis Wallengern.

Spindaals subcansus subcansus Patricius (21. Spindaals achistores achistores More (1). Spindaals totle totle Hestitore (2).

Spinshasis initis setti Hesettanni (2). Spinshasis initiin lagudarin Moore (2). Gerass Zeslus Hölmur

Zeona chrysonallus Hubare (2). Genus Tajuria Mocos. Tajuria cippus cippus (Fabricius) (3).

Genus Cheritra Moore. Cheritra freja jaffra Bester (2). Genus Rathinda Moore.

Rathfoli awar (Pahrichas) (4). Centus Catapocoellina Buller Catapocoellina cingana reputitino Frubatocke (2).

Conspeccions cogario rejectino Printetorie (2).

Geniu Deudoryx Hewitson.

Deudoryx epijarbas epijarbas Mocen (6).

Geniu Virachola Mocen

Visuchola Secretive (Palaricitas) (3). Genus Rapala Moora. Rapala melarrpus Centrer (2) Genus Blandshara Moora.

mus Bindahara Moore. Bindahara phocides moorei Pruhatorius (1).

#### Family 1005FERIIDAE.

Subfamily 1. CELAENORSHINAE.

Celum Celoenorribus Hilbert.
Celumorribus Inspoens Inspoens Kelifier (3).

Genus Teglades Hübner Toglades abscarus ethos Piotz (3).

Taglades atticus atticus (Pebricius) (1). Taglades litalosa olivna Prubetories (4).

Togisder Higison oftens Probatorier (-Germa Caladaria Moore.

Colodento dan dan (Palarichas) (3). Colodento dan dan (Palarichas) (3).

Coisdenia Indrant lodra Evans (1). Gerran Tupena Moore.

Germa Tapena Moore.
Tapena thumbest havysood Elmu (1).
Germa Odontoptilum De Nicertie.

Odoningtilism angulata Felder (1). Genus Caproes Wallengren,

Caprona rassonneili peliphera Hewitson (3).

Subfamily 2. HESPERIDAE.

Onnus Syrichtus Boinduval (- Hepsonia Fabrictus).

Syrichtus geibn (Pabrietus). Gezzus Gezuelle Moore.

Gernalia elma sibefusciata Moore (3).

Subfamily 3, ISMENINAE Genus Hasora Mooye,

Henora olesis alexis (Fabricius) (6), Genus Ismens Watson. Jamens Islan Sepumposi De Nicevile i

Invarine Julius Jergussoni De Nicovile ( Gentus Chosappes Mocro. Chosappes benjamintal (Guerin) (2). Gentus Badamia. Mocro.

Bodowie exclanationie Febricius

Subdently 4. PLASTINGENAE.

Octor Standard Moore.

Substan provides growing (Pabrician) (S)

Statements previou previou (Febricius)
Genus Ametta Watson.
Ametta stadistra (Moore) (1).
Sublamir S. ERGONTINAE.

tly S. ERGONTENAE.
Gezzus Gezgisch Moore
Georgens Obgeste (Agresie: (Pedictelus) (1).

#### Subfamily 6. PAMPHILINAE.

Occurs Taxactronees Statley

Tangetrooms marries Success (Pabrickes) (5).

Genus Assoltta Moore

Asystia dissocrides (Fabricius) (2)

Subfamily 7. ERYNNINAE.

Genus Tellopta Moore.

Telicola augias augias (Linzussus) (2).

Telicola puthias bambuna Moore (7).

Genus Oriena Evers (\* Niceville).

Oriena cole Mocce (3).

Gerres Padranna Moore

Padraona dara perudompera Moore (4).

Dudenous manualdes immercades Butler (1).

Genus Halpe Moore.

Heipe sweet Watson (1).

Huipe horsolen norma (Felder) (1).

Genus Bararus Moore.

Barrarus elietus cubditus Moore (1). Baracus barqueett Elwes (1).

Subfereity 8. BACRINAR.

Gerrus Baerla Moore.

Baoris Kamara Russara Moore (1).

Baarts strengts subochraces Moore (7).

Sapris mothins mathing Fabricius (7). Soorts guttettes basis Moore (6).

Sparts sellert relace Moore (7). Sparts beward beward Moore (1).

Subfamily 9 NOTOCKYPTINAE.

Genna Retacrypta De Nicertile. Noticeryptic parelyses objets Evarus (1).

Mosocrapto curvificacio (Felder) (4)

Gettus Udsapes Moore. Odgregor Steas (Cremer) (5).

Gerron Sanous De Niceville. Suncus public subjusciatus Moore (1).

Gerus lembrix Wetsco.

their hind wings tailed.

the plaine.

#### Order LEPEDOPTERA.

aborder RHOPALOC

Partity PAPILIONIDAE.

This forsily includes the butterflee popularly known as the Swillowitch. They are
the largest and more builburity coloured sames plantin butterflee. These butterflee are
mostly blerkleb or durk breast, with warded consistings of bless, given, yellow, end or other
culvium. The foresters are usually or other reactions and scienced. Many reaction have

This stage are very vestable to shape. The land wings are not channelled to receive the abdences but their times margins are trained upwards. In the male, the wing often been a partie of a preclaimed accides known as antirocords or a brain of demond failer.

The bubble and methods of Hight of the members of this failing wave very vested. They are make for any of a few and with the verted method, but in the accides are consense.

#### Carrie Troldes Utbres

This germs includes butterfiles of large size commonly known as the Birdwings, done species are remarkable for their beilland colouring. This germs closely resembles Polysiens but in Trivides, the subcostal vein of the foresting branches off from resere the base and is known.

Troides belena mines (Conner).

#### The Coursen Birdwing

Pate Ldg 1.

Specimens in the collection : Two, South India: 145 mm. Both are females.

Description: : d. The unremaids of the forested is shown black. The wire 2. 3 and

4 are distillated; edged with withinh, there is types being confirmed in the cell where they are untilled. The uppercase of the high wine is paident with labels being the part of the high section of the high wine is paident with labels bereiters and without. The uppercase of the high wine is paident with labels bereiters and the base for any time off. The abdomous is tower above, removed yteged with yellow laterally, and yellowish benefit.

9 This is most the events as the of that the interesting bases consistent services while

y mm is much one some as one to one to one some present general greyals warms artises should be wise a sent the upperside of the bind wing bears a clical row of large, triangular black spots. The broad, black outer beder is strongly cornect between the value.

The abdomen is blacked brown with a broad yellow stripe at the sides.

Range: The range of the race raison (which alone is represented in the Museum collection) to Peninsular India, upto an altitude of about 6000 feet, but the cause of the whole species extends to Creates Stitutes to Orders Storms and Anderson Islands, where

Health: This is the largest of Indian butterfiles. In South India it is only found on the western side of the southern balls. These butterfles begin to the early in the morning. Soon after a unrise they feed on flowers. They feed again in the evenings, but seet or glidealosely around tree tons during the rest of the day. They are commonly found in lungle. but may also be found in open country.

(Formerly known as Sugara and Treat

This genus includes the butterflies popularly known as the Red-bodied Swollowtack. They are often distanteful to binds and other animals which therefore avoid them. Their larvae feed on plants of the family Aristolochineese. The wings are narrow and elongate and the ground colour is black or blackish with or without white or red markings on the forewing. In many species the hind wings bear tails. This genue is divided into a number of crouse based on the wing characters and wnation. The two species represented in the collection belong to the Nector group.

of Q: The forewing is elegated, broader in the Q thun in the of the costs is widely arched and the area employed and counded. The bind wine is elemente with an earlied conto and scalleged fermen. The hind wing is produced into a tail at win 4.

Plate 1 fie 2.

Specimens in the extection : Eleven, Madma; 95 mm;

Description: (f : The bind wings are tailed, Above, black, forewing with a broad, white interrupted bend from the subcostal was copes to the crigin of wine 10 and 11 and

9 researables the of but the circul and submarried markings are defler

The hind wing beens, in both sears, discul and marginal rows of posteriorly strongly oursed series of seven origin on apots followed by a submagginal series of original berrales

The abdomen is black above, with the black colour extending further towards the

Expense: ( 2 : 90 - 110 mm.

Runge - Bengal, Indian Pentasula and Cevion.

Mabita: This a pecies in extremely contract in the routhern part of the Pentrauk and all over the Western Ohists. It inhabits thick jurgle as well as open country. It frequently visits drever and on the hills it is found up to an altitude of 5000 feet during dry weather. At make it must propare on their and the branches of trees.

Polydorus aristelechiae (Fabricius).

The common Rose.

Specimens in the collection: Seven, Madrae; Simon.

Spectroms in the collection: Seven, Madrae; Sitzen.

Description:  $g^*Q:$  The hind wing is failed. The upperside is black. On the foresting

the discol area to poler, with alternately black and pole stripes indisting from the margin of the cell. Held using with a spatialist tall, and with the elegance white spate since of which may be absent). That in area I may be red. These apon are arranged around, but at a cosse distance from, the lower send of the cell. In addition to these there is a marginal row of dull red cruecum: - shaped spote.

Espanse / 80 - 110 mm. Russe / India, Cerkes and Burms

Habits: This is perhaps the commonest, large-tailed butterfly found in lindse. It is very common till over the plains and seldom useends more than 4000 feet in the bills. Like the perceding species, they roost gregoriously on trees during nights.

Genus CHILASA Moore.

This is a group of mimetic butterfiles resembling the Danasidne. The body is a posted with white. The bind wing at the base with a while dot or spot, usually also a spot of the same colour at the base of the forewing.

This genus is divided into two distinct groups, the Apester group and the Clytin group. The former group is represented by species found in North India. Shikin.

elunic, and Burme, etc.

The another represented in the Manager collection belong to the Claim strum.

Note: Scene of the figures are drawn to natural size, but most of them are drawn slightly enlarged or reduced for the sales of commutators. In the case of species drawn to returnal size, the words 'natural size' are contributed in bredients against the name of the species and in the case of species drawn enlarged or reduced the cotten of commutators or reduction is indicated in treatments awards.

same of the species and in the case of species drawn entanged or reduced the content of compatibilities or entroduction is indicated in Proceedings of ground the order of the compatibilities or entroduction in indicated in Proceedings of the wings of a model of difference in colors and pattern of smokings of the wings between in model of difference in colors and pattern of smokings of the wings between in the case of species in which the mode is entitlicity different from the female, both make and forms are dispected, but these otherwise baseds, only the deviand view

## PLATE 1 Fig. 1. Traides belens minus (Crameri ix \*/\_1.

- 2. Polydorus hector (Lizzaeras) (x <sup>1</sup>/<sub>4</sub>).
   3. Polydorus aristoloshkar (Paletcian) (x <sup>4</sup>/<sub>4</sub>).
  - 6. Chisasa alyela olgela (Linnaenae) form olyela Linnaenae (x  $^{\rm 2}/\Delta$
  - 5. Chiliana olytin elytin il. Innoeus) form dissivally Lincoeus (x  $^{4}/_{\phi}\mathrm{L}$



#### Chilara ciytis Limneus.

## The Common Misse.

This species is widely distributed. It is generally found in large numbers at puddies on the sensity bushs of otreams, and also around flowers. In Southern India R is very plentiful in the measure mouths and spends the day mouths in the pups. It minutes for the pups of the pups of the pups.

Range: Kanges to Sötkim, Assam and Surma; Sombay, Meditys  $7 \mathrm{minsh}, 5 \mathrm{outhinds}$  and Caylon

The subspecies Giptia is represented in the Museum collection by the typical form clyins and by the firm dissivitie. The olytic form mission the Common Crow butterily. Envises once over and is executely necessarily more common than distribution.

#### Chilasa cirtia olytia (Linnaeus).

This subapecies is subject to much variation and altogether atc forms or varieties are known, of which only two, cigits and disatesite, are represented in the Masseum collection.

Chilese civits civitis Hanneval from civitis Linnavan.

#### Plate I, Sr. 4.

#### Spectrovis is the collection : One, Trivandrum: 90 mm.

Unfoctunately, the left forwing of this single specimen in the collection is missing.

Description  $F \in \mathbb{R}^n$ : The upperpide is rich velocity disk bown. The upperture state with reporting period of creds and a terralized series of sorts between the veloci-

The uppermide of the hind wings bear a discal series of long, arrow-shaped streats, marginal creatests and marrow yellow or while terminal spots between the vetro.

On the underwide, the ground colour suries from soft pale brown to rich dark whylly

brown. Forestig markings as above. Had wing with similer markings as those above, but with a marginal row of comparatively large, very complessom yellow spots.

#### Buses : Scoth India and Ceston.

Habits: This form is generally more connece that the next from chasterins, though, in or Crybos the Interior Firm is eligibly more absurated. This butterfly shabits the shall regions at low develores. The present form instates the Counces Crow butterfly, Euglices core core to appearance as well as in fight. But this was of the next form are convenient during the unrecover to Kasarra, while in S. Nilgotis, they are consistence during the day weather from Princary to Audi.

#### Chilana olytia clytia (Linneaus) form diseizzille Linneaus Plate I. Sr. S.

#### Specimens in the collection / Three, exact locality not recorded; 92 mm.

Decopyrise: The opposite of the femology with four cell straids coalescent at the bost of which were to make and the other three natures. Areas with long streads and bost of the nature. Areas with long streads and which the cell of the stream of the stre

Expanse: 50 - 100 mm.

Stage: This form is widely distributed, occurring all over India, from Southern India
to the North West Hussianna.

10 the North West Historiyan.
Hisbits: This form minists the libra Glassy Tiger butterfly, Danain limitore. The 
\$\tilde{C}\$ and \$\tilde{C}\$ are black above, with cream-coloured stripes and spots, disposed somewhat as
in a black Danain lowery that the pole markings are not glowyl. Specimens of both the
above forms, orbits and distalleds are found in this Difference as the elevations. In North
above forms, orbits and distalleds are found in this Difference as in a relevation.

India, the maximum altitude at which they have been obtained appears to be 2000 feet.

Both firms are commonent during the monorum months.

Once Profile Linguista.

The members of this grazes are chiefly citrus feeders. This grazes differs from Chilesa

essentially the larva, which is comparatively smooth.

The Custor going of Applie resembles Chilises in having white does on the body and a white soot at the laws of the stone beneath. The other groups have white does on the

hand and protherex above and on the peipt, but none on the abdomen. Makes are not mirrotte, as a rule, but the females of a number of species mirror species of Folydonus. The Light is powerful. They are active and remain on the wing for a long time.

The Light is powerful. They are active and remain on the wing for a long time.

The genus Papilis is divided into a number of groups, of which the Messesse, Paris,
Helenas and Demoine groups are represented in the Massum collection.

The genus Pupils contains by far the greater number of species than any other genus of the family Popilicuides.

#### PLATE B Fig. 1. Pasitio polymenator polymenator Costper ix 1/.3

- 2. Papillo porto tarrifano Moore (dorso) view, x 1/,1 3. Popšio paris insuliana Moore (ventral view, x<sup>2</sup>/<sub>a</sub>)



### Panillo redvarantes nelementes Course

#### The Ditte Marmon.

#### Plate II. fig. 1.

Specimenz in the collection i Stx, South India: one of them is from Pulmey Hills, 25 one.

Description:  $g' \in \mathbb{R}$  Upperside of forwing black, with a pale blue discal bond which narrows down and becomes obsolete towards the apex. This pale blue band is traversed by black towarvers stripes along the votes. The underside is open-upon black with an

or parties a separation of dark and at this haste of the cell in the foresting.

On the upperside of the hind wing, the basel quarter is black. The remaining diskel there quarters of the wing is past bits with it over of black discals spots, a similar row of black hastestaped aposts an similar row of their parties of the substantiqued aposts and a row of marginal black spots, a similar row of the substantiqued aposts and a row of marginal black spots. Sense of the substantiqued aposts and a row of marginal black spots. Sense of the substantiqued apost and a row of marginal black spots. Sense of the substantiqued apost and a row of marginal black spots.

the hind wings with five irregular small patches of red at the base.

The hind, thouse and abdomen are uniformly blackets brown-on example of protective colouration, see the spreades of this butterfive are only attracted by the brightly

rescense casoumines, as the operates or that ourserry are only attracted by the originary focused distint parts of the wings.

Empares 120 - 150 mm.

Ranger: The range of the certire species extends over Cepten, South hafts, Maditya Prodech, S Bibar, Bergal, Stidden and Western Ghaite but the present men, polymerasion to found in Protestuals indica on far north as Bengal. In South india, in the Nights, it is found up to on altitude of 7000 feet.

Habita: This is the typical South Indian mor, while the subspecies from Coylon is P. polymenter particular (Moorel. The flight of this britistry is powerful and rapid, but it does not by high as a rule. It frequently whate Source. It is not found much on the plains or dry regions, but is most pitulibal in evergiven jumples. He found in the Niightis between 2000 and 5500 feet, but may assent in 2000 and 5500 feet, but may seemed in 2000 feet in they weather.

#### ARIS GROUP

This group includes the butterflies known popularly as the Blue Peacocks. They are tailed. The ground coker is black dusted with pidden green scales on the uppersists. The uppersists of the bind wing with a blue or green discal band and a prominent formal red ring enclosing a black control.

#### Papille paris tendina Moore.

#### Plate T. Sec. 2 & 3

#### Specimens in the collection: There, South India: 117 mm.

Description: of 9: The unperside of the forewing is almost conspictely black, with

a green discoil band which is short and marrow, others faint or absent shingeline. The upperside of the body and wings clusted with green. The upperside of the body and wings clusted with green. The upperside of the blad wing, with a large, beight green or blee, sharply defined posts, wendy and convexity ourseld at the inner edge. There is a red azurabar torough ring. No other marginal spots are present. The rehability or rewrish cased, is connected with the inner marginal spots are present. The

The underside is brownish black. On the underside, the forewing bears a series of close-sed givey disculatifpes which do not reach the end of the cell. Itlad with a compiler two of red or yellowish red hazakler single enclosing with them ownl. purplish blue spots.

The hind wing bears a prominent, club-chaped tail.

Emerge: 120:140 mm.

Expense : 120 - 140 mm.

Rompe : Pertinoular India.

Hobbis: This is one of the most beautiful of South Indian lustrefiles, very common in wooded districts at lower elevation, but never found lower than 1000 feet. Their flight is very swift. The females are rarely seek. The present subspecies is the South Indian form. It is not uncommon in the Nilgisk from 3000 to 7000 feet in April and June.

Papille Crize Patrictus.
The Conzuen Banded Pascock.
Plate III. fee: 1 & 2.

Specimens in the collection : Three, South India; 62 mm.

Description :  $\mathcal{O} \in \mathbb{N}$  has upperside of the wings unablemity district with green scales, Agence, post-discol bard is present in both wings. The till is depot with green. In the forewate, the blobbs green delical bard is schorely defined and near-one towards the costs; an Highly curved and isstances. In the higher defined with next making green post-discol bard, inversity closely defined and not statement; he is a freeth blobbs green post-discol bard, inversity closely defined and not entering the etc. A flow with 7 it is always become seen that the cost of the limit of the post-discollation of each in the definition of which with a first green green of the cost of the limit of th

The underside is dull pair brown to blackish brown irrorated with scattered yellowish scales which, on the forewing, are absent from a large, triangular discal patch. Hind wing

## PLATE III

- Fig. 1. Popilio oriso l'abriction (documi view,  $x^{+}/_{a}$ ).
  - 2. Poptito eriso Pateichus (ventral view. x 3/4).
  - 3. Popillo buildha Westwood (x 1/ ).
  - Papillo dravidsram Wood-Mason (x ?/\_).

     Papillo helenas dokuha Moore (dorso) view, x ?/\_).
    - •



arched post-discel bend

Descriptive Catalogue of the Eutportlies with the turnal occilius much as on the uppersole. Also with an obscure, strongly

### Emense: 80 - 100 mm.

Runge : Ceylon, parts of Pentraular India and Lower Bengal.

Minblis: This species is fairly common on the plains. In the Nilgiris it may be met with below 2000 - 5000 feet. In South India It flies throughout the year, but is commanest in July. It seconds to about 6000 feet on the Mile. Its flight is very swift. This species is said to be paignatory. The food plant of the larva is the Sattawood tree.

## Papillo buddha Westwood.

#### Plate III. Dr. 3.

Spectmens in the collection / One, locality not recorded: 100 mm.

#### Description: of Q: The appearable of both the wings bears a broad blaish green discall hand which enters the sell extensively in both the wines. This hand is broader and

enters the cell more broadly on the hind wing. The basel areas of both the wings are dueted with green scales. The outer magginal areas and the tail are black. The hind wing bears a yellow submarginal spot on the costal margin, and a similar crescentic yellow mark at the tornal angle-

The underside of the foresting bears a broad, post-discal grey band. The bind wing bears a pole marginal border and a series of parrow, vellow submarginal spots. Expense : 90 - 100 mm.

#### Sonne: The Western Chats.

Hubble : Thus is one of the most beautiful of Indian butterflies. It is confined to the wooded regions of the Western Ghats where the minful is heavy. It is common on the hills near the son at lower elevations below 2500 feet. Its fight is extremely swift and it often leave to the tors of trees. The females are selders seen. This species is corrected on the western eleces of the Nilstria.

#### CARTOR GROUP

Black or blackish brown butterflies, with white markings. Tailless. Mirrics of

## Pepilio dravidarum Wood Mosco. The Mulchur Barres.

Plete III, fig. 4.

Spectures in the collection / One, South India; 93 mm.

22

Description:  $\int_{-\infty}^{\infty} Q_L$ . Upperside velocity blackfab brown. The upperside of the foresting with the outer helf and four indistinct lengths deal large in the cell trocested with brown codes. A small white spot is precent across the middle discocciliate. A substantigiant section of three-ridy control white spots and a merginal section of white spots

The upperside of the kind wing with a discal series of arrow-shaped white applies (outwordly cranginals), and a marginal series of chought white lumalar spots of the black ground colour in between.

The ground colour of the undesside is a rich hair brown with larger markings than above. Head, thorax and abdones n dark brownish black. Head and abdones minutely specified with white, the white specifings being larger and more numerous below. This butterful is stalless.

Experies 80 - 100 mm

Range / Peninsular India. Western Ohata.

Makits / This is a rather rare species confined to the heavy tunetee of the Western

Ohata between 1000 and 3000 Set. It minutes the Common Indian Crow betterfly, flaphon core core and the Common Mine, Chileso dyns dyns dyns. The male is usually commons. This species is fairly common in Coorg and on the western slopes of the Nilgirie.

Tailed. Black above, with a white or cream-coloured discal band or patch on the kind wind.

Papille belease Littracue.

This is a consecu section occurring especially in high jungle. Most abundant in low

circustons but occurs on the hills up to an altitude of 0000 feet.

Three subspecies are found in the indian Region. Of these, the cost found in South India to Parillo belong datable. This is the subspecies to which the executivens result the

### Panillo balana dababa Morra

## The Red Helen.

#### Plete III, Fig. 5, and Plate IV, Sg. 1.

Speciatron in the calculate: Eight of these, two are from Pulseys, one form the highist, one from the Netterials Report, Malablasi Press. Throughed Desirett and can flow Cookin. The remaining these are from South hells, but the exact locality in not recorded, 115 mm. The specimens are large, one of the specimens from the Pulseys being the largest, measuring 133 mm., which is 5 mm, more than the largest recorded expanse for this subspecies.

Description 1 of Q. The uppercise of the bind wing with a large, creamy white discost patch in arous 5, 6, and 7 An obscure series of claret and creacent wheeped spots along the lower margin, but these spot may reconstance be about. Extreme margin typed with white; transville course, creacent-happond lines group.

The upperside of the forcetting is more or less uniformly blackish howen, but the outer half is nightly paise. The underside of the foresting with the grey, transpersions at meaning a board, transverse discoaries which considerably towards the costs, which posteriody not extending to the outer margin. The underside of the hind wing with a councile to we of manning and execution.

#### Espanse : 118 - 140 mm.

year Detween 1000 and 2000 feet.

Starge z Pentraular India : Western Ghata, Nügiria, Palata, Sheveuya, Coorg and Bengelore.

Histor i Tale species tabable evergenes jungles to regions of henry restable. In thight is repaid, but I fills see ward keeps critishy to the protection of trees. When I read, related to the protection of trees. When I read, related to keeps the kind wings bardinately and with the forevoing drawn over the hind wing and did got the protection of the relation of the

#### Papillo poirtes Linuacus.

A very interesting species of wide distribution. The female minute species of Adaptives heter. The South infilan more, remains, is represented in the collection.

#### Papilio polytes remules Cremer.

#### The Common Mormon. Plate IV, Sg. 2 & 3.

Specimens in the collector: Eight (five male and three female), South India; 80 mm.
The smallest specimen from Madras measures only 63 mm. (17 mm. less their the

Description :  $\vec{C}$ : Tailed. The uppermise of the forewing is black, with a terminal series of white spots which gradually become narrower towards the apical end of the wing. The uppermise of the bind weing with a transverse discretion of slongest with apote foces the fairer margin to seen 7, these spots being divided by the black velues and believed by supermy bins conto on one-discent less.

The undersate is similar to the above, but with duffer grownd colour. Hind wing with the desired series of within spot and this seading followed by a undersarginal erries of massle, duffered the white hundred and a row of narrow, then, curved within sanginal apole. The termal apol is sequented from the blue-scaled was by an ochre-coloured line.

Q - (form stichlass which alone is represented in the collection). This mission the Constron Rose, Polyakerus arcitalochius very closely.
On the unperiode, the forestest is crossed obliquely from the middle of the cell to the

tornal angle by a troad white hand somewhat as in polythenia bodies. The edges of this bend are not well defined. This is followed by an ill defined white patch beyond the apox of the cell.

Hind wing with two or in these lockages with spots and often with one in its again of the cell. The lower half of sent 1 is durk red, irrorsted with this scales and with a superposed block torsed spot. A submariginal series of red lumines (these are mach redder than in religions exhibited income and a series of paler red marginal spots in the posterior interspeces are present.)

The underside is similar to the upperside; the underside of the hind wing bears a complete series of outer marginal spots.

In both the sexes, the antennee, head, thorse and abdomen are black, but the head and thorse are spotted above anteriorly with white and the whole body below spotted with white.

Expense : 90 - 100 mm.

Hange : India, Burms and Ceylon; also extending to Malay Peninsula and the

Holds: The Common Mornion sometimes engine striking differences from the

They are known as aberrations. This species prefers lightly wooded country but is commonly used with throughout the year, over the plains and also on the hills up to n considerate height. The male is a common visitor in gardens and thes fast close to the ground:

Of the females, the form etichies is the commencent. This species is very common on Barkuda laberd. Oriens, where all the three forms of the female have been collected. The form of the female which is common in end around blodons is civilate. The form course is the ment. but it has also been recorded around blodons (Dr.).

DEMOLEUS GROUP

This group includes butterfiles with black and yellow colours predominating. Base of cell on the undestale of the foresten striced with cell wellow. A large central area in

#### Papillo demoleus demoleus Liumeus.

#### The Lime Butterfly. Plate IV, fign. 4 & 5.

Specimens in the collection: Fourteen, of which three have their wings broken. Of those, two see from Palarys, one from Godewst and the rest from Madras. The specimen originally labelled as Piderseless Sweedox was also found to belong to the present specimens scruting. \$3 mm.

Description : f' g : The uppersists is back, flast vising with a breast, irregular yellow discultant. Foresting with large, irregular policy and problem. Foresting spike to base below of lend based back from the uppersists of the yellow of a set to them more than the problem of the good problem of the problem of the

The undenside is of the same ground colour as the upperaids, but with polar and much leagur matching. Florevity of which creams cultured lines over the based half devia and the base of wing below it. These likes coalesce at the base. Hard wing marked with large, polar cream-coloured pathods reducing this black ground colours to survey unterspeece. The overland is case 7, the spect of the cell and the black ground colour between the discolter of the survey of the colour black of the survey of the black of the survey of the declarence extendity.

Antennee dark reddish bown, and head, thorax and abdomen duely black. Pulpi and lower surface of thorax and abdomen crears yellow, the abdomen with fine lateral, longitudinal black lines. \_\_\_\_

Expanse : 80-100 mm

Sange : Ceylon, whole of India, up to Northern Burms. Also extending to Pensis and Ma.

Histors: This is a large, nathess, brightly coloured butterfly and is one of the consenses species found in the plains. It may be seen visiting forward in large numbers during the consensen. It assembles up the hills up to me altitude of 7000 feet in the Histolypus. It is essentially a plains species, Sying low at all seasons. The fool plants of the large are often cities there.

Populo derestrus denseleus form desceletors Ob.: At least two spectment in the collection Decality, Madrael appear assignable to the form denseletors. In this form, the red termslepot of the hand wing is reduced prostruitly, and separated from the blaze hannels for a black many.

#### TRUBE GRAPHINI

The members of this tribe are popularly known as IOts Swallowtata or Swootfesta, as the narrow, long, pointed talls present a sword-Dis appearance.

The switching are moderably short, with a stout club. Wrigs often thinly scaled, and the contraction of the switch and beliefs hards and notice on the swoot surface monthly are interesting to the switch and beliefs hards and notice on the swoot surface monthly are interesting to the switch and so the switch are surface monthly are interested in the switch and so the switch and so the switch are switched as the switch and so the switch and so the switch and so the switch and so the switch and switch as the switch as the

## without scales. Forewing in most species of Graphium with vein 11 connected with vein 12.

Germa Graphium Scopeli Obcessely Pathyse Reaktrij.

Characters of the genus more or less the same as those mentioned for the Tribe above.

The species of this genus are assigned to four distinct groups, depending on the length and shape of the sid. the nature of the wine and other characters.

### Both the species represented to the collection of this Museum belong to the "Antiphates" group.

ANTIPILATES GROUP

Forewing with veis 11 running toto veis 12. Whaps white with black bands. Tails long, grainally potated, a well marked cottony scent organ in the abdominal field person in certain species.

DOIL, grainancy progetor, A west insented cottoury seems organ in the abdominal field persent in certain species.
Six Indian species are the haded in this group. Of these celly subspecies of two species are found in Southern and Penhandar India, and these are the only ones represented in the Mercura collection.

# PLATE IV

- Fig. 1. Popilio helenau dakuha Moore (waztral view, x \*/<sub>e</sub>).

  2. Popilio polytes recentes Cramer (Male, x \*/<sub>e</sub>).
  - Papillo polytes remains Cramer (Sune. x 7.).
     Papillo polytes remains Cramer (Funels. x 7/.).
    - Papello dermina demoina Noore to <sup>1</sup>/<sub>1</sub> inlightly finded specimen, originally labelled as Papello demoina licension Moore).
    - 5. Paptile demoleus demoleus Moore (x  $^{3}/\sqrt{3}$  tiresber spectment.



### Graphium nomius nomius (Esper).

Plate V. Phy. L.

#### Sectiment in the collection / One, locality not recorded : 50 mm.

Description of \$G\$ (Approach binds about fields in the great questions). Present a model by the broad is the single field on the time in the great of personal with a work front, that is single acceptage factor can that of the sold field with a single control of the single acceptage for the single single control of the single size on the sentence of the single size of the control of the size of the particular of the size of the particular of the size of the s

Underside white, with the markings brownish instead of black. In the hind ways, the

toner diseal band broken and triegular, block and bordered with a series of red apote edged with block on the outer elds.

The main has a cottony econt wool in the derest field.

one mase case a cottony scent wouldn't for dorsel fold.

Espanse: 75 - 90 mm.

Edune 110 ac mr

Range: Coylon, Peninsular india, and extending north wards to Sikkim, Assum and Jurma. Not nov.

Hobbs v This is a widely distributed species, occurring all over holis, and sking the Himslapse up to Sinds. It is usually found below 3000 feet and migratin locally necessarian parts. It frequents different block of habitats in different localities. It is generally gregarious, often found extiting in large numbers on wet mud. Its Hight is low, but a bady and mylel

> Graphium antiphates naira (Moore). The Fivebay Swordtail.

Specimens in the collection i One, This belongs to t' – wet season form, which is the nondrotypical form of this species; 84 mm.

Description: G' 3: Dependen with forming inversed by the short, block bearies of which the beard extends to the later mergin, the reablessed band takeness 1 and third and forum in the region of the cell. The fifth lears is two and out branging, with the ages inversionally of the lower angle of the cell. Experient these are the broad, part should be a transitional of the lower angle of the cell. Experient these are the broad, part should be a be a simple of the lower angle of the cell. Experient these are the broad, part should be a believe to the same amovation down to be been part of the input since. Short, such cores,

tends intervene between the cellular agical, post-discol and marginal black baseds.

Hind wing uniformly white over its greater area, the black markings of the underside shorting through as shall pay perlobe. The perspheral core-leveral of the unifore broadable grey, traversed by a series of curried black branche existing in a tornal black spec. A

gry, inversed by a series of curred thick hazales enting in a tornal block apet. A marginal block band present, following closely the curved intentitions on the margin of the wing. Dail blackbish bown, edged and tapped with wide.

The undentide of the forewing is similar to the upper side, but the green rings over

the white parts in the cellular area is more pronounced. The discal and marginal black builds are not joined posturiorly.

The markings on the underside of the bird strat are rather cisborate. The beaut buil

is given and the distall half-wides. A large, black formal spate is greened. A black like in present shorp the intere rangel and courting above the broatel spate classeds. A black like is present shorp the intere rangel and courting above the broatel spate classeds. A plantial sub-based black bend and a broader black based extending from costs, and an irregular faceal section of black marking of coursel immedia postericity traveals the interest apoly present. A subtraceginal section of very wants, altrader, black, conscent-obaped spots in order and a neither of short, mentional black loss course.

Справняе г 80 - 95 mm

Roops : Pentraular india. Common in the set season. The female is rare.

Habits: This species is most abundant in the moreous months. It has a quick, graceful flight, and may be seen clocking around tree tops and frequently setting on mother of moist anni. It frequently setting on mother of moist anni. It frequently setting on

EURTPYLUS GROUP
Graphium surpeden treedon (C & R. Felder)
(Remerly Zetifes surpeden teredon (Linnarus).
The Common Blusbottle.

Specimens in the collection: Eleven, Trichter, Wyssand, South Coorg, Polisis, Kalakkad Scott, Netherlikad Scotter, Thumbrell District: 76 mm.

Description:  $\vec{C}^{*}$   $\vec{S}^{*}$ : Opposition Stowards black, with a greenish blue discal band. The bend is narrowed activities, and asparated jate appearance the appearance and on the black with  $\vec{S}^{*}$  is not on the black with  $\vec{S}^{*}$  is not on the later with  $\vec{S}^{*}$  and  $\vec{S}^{*}$ .

#### PLATE V

### Fig. 1. Graphtum roomius nomius (Esperi ix $^3/_{\rm p}$ ).

- 2. Graphham antiphates noine (Moore) (x <sup>1</sup>/<sub>4</sub>).
   3. Graphham surpodon terrodon (C & R. Felder) (x <sup>2</sup>/<sub>2</sub>).
- Graphhun sarpedon terroton (C & R. Felder) is
   Graphhun deepen eletan (Probatoelle) ix <sup>2</sup>/-3.
- Graphhan decon eletar (Probatocke) (x \*/ j.).
   Graphhan agromennon menden (Probatocke) (x \*/ j.).
- Graphium operation (Westwood) (x?/\_).
   Graphium clourshus (Westwood) (x?/\_).



angle. Hind wing with the costal part of the band scaled with white. The hind wine also bears a row of narrow even submaretral lumiles. The scent fold on the inner maretn of On the underestie, the ground colour is paler, the discal hand scaled with transparent

whittish. Forestor with faint indications of submaretral anota. The hind wing near the base, bears a red transverse bar, extending from the costal margin to the cell and is accounted from the discal hand by a dark patch. Fire red discal spots are present, of which the forested one supported the over of the cell

Body hypomiah black above covered with dark over bates, and below mostly main may. This authorecies is distinguished from the typical form of the species by the parrower

discal band on both wings. Hind wing more atrongly produced at the apex of vein 6, where it focuse a strong, outswortly projecting tooth. On the formetry, the small, greenish spot nearest the apex is sometimes reduced or absent. Emmer: 80 - 90 mm.

Rance: The species Graphian surpedon is represented by two subspecies in the

indian Region. Of these, G. Surpesion teresion occurs in Ceylon and Pentraular India and is fairly common. The other authorecies. G. Sarpedon earnedon reness from Kashmir to Mobile . This assertes to endowed with very atrong papers of fitcht which is treateally

ablypting. It occurs in wooded districts so well so in more open country and is very consessed in standards and woods. It settles on wet natishes of soud, but is more yory than the preceding species and stays only for a short while in one spot when it does so. It keeps racce to onen and survey places and is frequently found howering around flowers. When resting, it keeps its wings closed. It is commonest at low elevations, but has been collected on tops of South Indian hills. The specimens in the collection from Kalakkad format are from an abiting of about 500s, but

Ototo - In the facure storn by Winter Rietly, Butterfiles of the Indian Region, Plate 58.fg. 3 the discal patch is shown as blutch and bluich white while actually in the anestmens in the Museum collection, the discal bands are more or less completely yield green, there being very little blue in them. The submarginal lumules are also green in the present spectmens, while they appear blue in the said figure).

> Oraphism doson eleks (Pruhstorfer) The Common day

> > Plate V. Sc.4.

Speimens in the collection: Ten, Madras, Niigiris and South Coorg, The Ceyton form is O, doesn doesn which is the nominotypical form of this species: 74 mm.

Description of  $S_2$ . The suppression is back-that should also backink traves in all the specimens to the collection. The referred point the water-force, obligate, and conjuding streams to the based half of the cell rank two trengther, installing referred specimens again zero. As even, choose, plus green and componed of specimens that grainfally distration is not an articularly, in present. This hard extends from near the spect of the free-wing nearly to the coresum of the fixed wind.

Both utings have a marginal series of small green spots. This form differs only slightly from the typical form, Ginphans dones no doon from Opins. In the form O, doesne teles, the green spots is the spiral half of the upprecised of the foresting are accessively associated and the discal bard is accessively broader. In the preserved specimens in the Marseum collection all the accession and bards have fixed from foreign for

The underside is brownish black, with the markings more or less similar, but larger and with more diffuse edges. The underside of the hind wing with a white based streads extending half way down the larger margin.

The made bears a yellow secret wool to the dersal field reacting the timer mar goal dark.

etripe.

Expense: 70 - 90 mm.

....

Range / Southern India to Bengal.

Mabits: This is a common form, although much less common than the preceding species and keeps more to damp, worded areas at low elevations. Its flight is much weaker than that of the more first accrete.

Graphium agamemnon menides (Fruhstorfer)

### The Tailed Jay.

Specimens in the collection r Early, Madrus, South India: 94 mm.

Description: of § 1. The supported is brownesh black, with single, legical thous present problem, which are more would have like a broad for the near call sings and ediption in both any office of the color of the

#### Eventure : 55 - 100 mm

Soose - Caylen and Pentraulus India.

Habits: This is a common species ascending the hills to about 7000 feet and knees to seed smooth country and in years or less similar to Countries according to its habits. Greebium Closethus (Westweet)

### The Glassy Rivebottle

#### Plete V. fig. 6.

Specimens in the collection: One, Northern India. The specimen is blackish brown with the coloured neighes and broad, discal band fixed into a very pale, whitish green; Description : of O: The unpenate of the which is black with boost, streen bards.

The forceting bears two isogn cell patches and a broad, discal band which is continued on the hind wine in the form of a triangle. The hind wine also bears four greenish submarginal D-abased patches and a faint, siender streak above this series. The boulers are black except for the docum of the forestor and costs of the blod what which are dull brownish. The spots and bends are pale transparent green in the hytographinen, but turn comme whitish in the preserved appringers.

The underside of the forewing bears a pale submarginal basel along the black border. the preserved apoctoner. The underside of the bind wing bears a red line at the base and amaß, black-edged red, linear apola from the end of the cell to the smal angle.

The body is brownish black, above, and paler brown beneath. The tell is more skender and pointed than in the preceding species. The tail is well developed in both the male and the female.

# Espanse : 85 - 95 mm settles on patches of damp sand.

Range : Formore and China to Northern India. Only the nomine typical forw to which the present specimen belongs, enters the Indian area.

Habits : This form, namely, Graphium cleanthus cleanthus enzyes from Kashzzir to Assum and Burms. It occurs in the hills up to an abitude of 9000 feet. It is most abundant during and after the rains. Its dight is rapid and it frequently circles round tree tops and

#### Family PERSONAL

This family traductes arould to moderate sized butterfiles which are almost always while or some shade of yellow or orange with black markings. The hind wings are never toded, but are changeled at the toner marris to fit the abdomen. In both the wines, the cell is closed. The venetions is either variable, being more so in the forewing. The legs are fully destinated with the classe left.

are Day developed with the clams Bild.

This faculty developed with the clams Bild.

This faculty developed is developed by a subfacultien, but only two subfaculties are represented in the Indian region, resulty, the Piorises, including the "Whites " in which the performance order is within, and hald sing beam as wide developed personant with, and the top land sing beam are sufficiently with an extension of the production of the production

wing in either absent or very short and directed beauly, and the pulpi are usually not halry.

Butterfiles of this family migrate to large rounders, literally forming clouds in the six.

They are cosmopolitan in distribution, being found in all parts of the world, including the cold arctic regions, the according desert areas and the tropical forests.

### Subfamily PIERINAE.

The hind wing bears a well developed preceded with which is directed distally. The forceding bears 10 to 12 veins: This subfacelly includes the batterities popularly known as the which is in which the predecimant order is with back spots, although there.

This subfastily may be divided into two groups, manely. (1) in which in the feetwing the win 6 breaches off from with 7 and (3) in which the win 6 is given off from the upper augie of the cell or just above 1. Of these two groups, the first one includes by far the event remarks of from remarked in the cellsoften.

#### Gerrue Leptonia 100tuner

Leptonis is a genue of fairly send! butterflies with a wing span of about 35 to 50 mm. in the forewing, the costs is slightly arched. The span of the forewing is very board and recursiod. The outer margin of the forewing is correct. In the land wing, the costs is very slightly arched. The outer margin of the black wing is strengly section! The inner margin to strategit or slightly arched. The looky is already and the eyes are maked.

The single species. Lepisols size and soccurring in the indian region is well represented in the Museum collection.

#### Leptonia nina nina (Fatefeiss). The Psycha

Plans VI, fig. 1. Specimens in the collection : Nine, Madrae, South India, of which one is incomplete, with one of the forestings busines; 40 mm. Description  $r \in \mathbb{C}$ : The upperside is white, with the bases of the wings faintly previously with minimize black scales. The forwards from all the ages and outer margin a black barrier to vets 3, levester at the ages. A very large and conspicuous black discal apol to present. The hidd wing is uniformly whithin, often with an obscure. The marginal

The underside is within. On the underside, the contail programs of eyes of the forestig are boundly stressed with green action. The whole surface of the lasts wing is also atrealed sizelarly with almost, transverse greenable action and naturate doss. The underside of the brewings with the pose-decided black spots are on the upweath. The coster mergins of both wings bear intensit when thack time at the translandors of the visia.

In the female, the block markings on the upper-side of the forwing are usually alightly broader. The head is brownish, the thouax and abdomen being white.

Range : Ceylon, Pentraular India to Museouree, Durma and Andaman lalanda.

Habits: This is a delicate butterfly with very weak powers of flight. It is a occurred the street flustrating among the undergrowth of sorub or jumps, seldom rising to more them two feet above the goarst.

### Genus Aporta Hibner.

The Blackovine.

The prome include large, white butterfiles with black veine, hence the popular page.

Stackwein. The wings are long and rounded, in the foresting, the costs are very algeby, arched. The spex is blant, the outer mergin corons and the inner mergin electight. The hand wing is compressively long, nervow and some or less pear-shaped. The well is electigate in both the wings. The greats whichy distributed occurring over the whole of the Palescentic Region.

excepting North America. In India, this genus occurs on the Himsleyne and the hills of Assets.

Of the two species represented in the Museum collection, one, namely. Aperia crossing Lamarck (of which there are few speciasess in the collection, 65 mm.), is a European species with whiteh, consevent sentimensperent wings bearing distinct black value. (Plate V. fig. 2)

The other species, Aports leurodier is represented in the collection by a single specimen belonging to the subspecies sessed above.

Annual instantible served a Moore.

The Himsleyen Blackwein. Plate VI. fig. 3.

Specimens to the collection : One, Historieyas; 60 mm.

Description: G ?: The wings are white with lack wine. On the uppersist, the wings, are railing while. The focusing shears a post discubble on which is usually deaded in seen it. A heavy discoordinate her and a thin marginal black line entering from heave of costs to have of inner ranging in supersect. The horse is sighily considered with black scaling. The hind wing is without any markings, except for a marginal black flows are not because of the control of the co

On the undereside, the forewing is white, with the apex and costal edge pole yellow. The block markings are so on the suppersists, the undereside of the hard weng to pole yellow, the processal sens being highly ridge. Discal hard is often absent on the underside of the hind wing. The bend, there and abdomm are white, suffused with black above and white below. The arternous are black.

The female is, as a rule, more heavily marked. Expanse : 50 - 70 mm.

apaine , so - 70 mm.

Songe r Kashmir to United Powinses (Utter Predesh). Also Measocree in the Himslayes
Himbor This is a common species found at elevations between 4000 and 10,000 feet.

and is most alternated during May and June. This butterly frequents threets of the Here-Chestruit. It may be seen feeding to large numbers on these bissesses. It is not found at elecations lower than 2000 feet, nor ofter the advent of the raises. In the stage specimen in the collection, both wings have diffuse pale brown markings towards their

#### Oemos Deline Hübner

This genus includes betterfiles popularly increase the America. Doys relation, their good was not seen remodable for their body mondest versions and the pressures of bright, high-it, red and y like we marking on other understand of this lated wing. The uppossible is usually written between once or all of the wine anneal to lake it in closeds both with we york to usually written between once or all of the wine anneal to lake it in closeds both with the complete or yolkow markings. The space of the forevering is boundary marked—real is contain margin in closely. The laters require in seringle, The contain is larged and occupied and the later language of the veriege, in the half wine, the cold is regularly out and in a little size that America and the later later is a regular of the veriege, in the close which are found to the threading in all properties and assuming

These bratterfiles are slow in light and frequent grossy mendows and open country from 2500 to 6000 feet. They haven fovering trees and atrula. They are unsulty seen thing high stores of the contributing the institute, (fourniss) which is they find plant, growing parasitively on other trees and shrule. All the species have the hind wing more or less the highly colored on the understand in some cases the upperals only more or less the highly of the control of the understand and in some cases the upperals of

### PLATE VI

Pig. 1. Leptania nina nina (Pahrinia)(x 1 %).

2. Aparia cracingi Lexarcik (Europena species: satural site).

3. Aparia inscudire novania Monor (swinna) site).

Delias eucharic Drury (dansablew, x \*/<sub>e</sub>).
 Delias eucharic Drury (ventral view, x \*/<sub>e</sub>).

6. Deltas thysise kundha Doherty (densal view,  $x^2/_{q^2}$ . 7. Deltas thysise kundha Doherty (ventral view,  $x^2/_{q^2}$ .



of the forwaring or of both the wings is also brightly reloased. A number of species of Delian are minicked by other species of this family.

Of the thirteen species found in the Indian Station, only three species are recovarabled.

in the Museum collection.

Dellar emplorie Dony.

## The Common Jesebel.

Sale VI, figs. 4 & S.

Specimens in the collection: Tem, from various localities in South india, such as Godawar, Wysaed and Trichum 72 mm.

row of large, betch red spots on the underside of the hind wing. It is one of the communest and most familiar of the ladius spectre of Delan and is noted for the beauty of its colorosation and pattern of weather.

J. The uncertaint is white, with black wine, and a black roter discal land on

both the wings. This robuses/gash lites is negationed at with 5. This like respective of a robuses/gash or of evern white price and a remove spitel policy. These peak we narrowed on the outside. In the last wing, on the upper natives the vetter are, on a robe, not blackedered which the subsamppella less, but not any superiors in the like. Messens of the last peak was a robust of the last peak with the subsample less than the last peak of reaspital apper, not the black which gas in a lightly plack venue to the robust beautiful to the course reaspits, used each of those writes to restrictions in a remail black triangular mangitual spot.

The underside of the fevering is white, with all the ween knowly blockment. The undersignition wis to make more investigated times on the uppression. We undersigned upper and widther on the begreened where may be experted upper the underside upper the underside of the undersid

Or The supportable to white, with all the voins insortly blackened. The wings are often tinged with yellow and pink. The forewing is growth white, with the submarginal line much more heavily marked to that in the mask, the spote being alliphy smaller. The hind wing bears a conspicuous row of six submarginal spots, white, tinged with pink.

The underside resembles that of the male. The subspicel spots in the foresting are yellow, in some specimens the ground colour of the foresting is yellowish. In the hind

36 Patient, Medica Government Mannan [N.H. VII., NO is wing the votes are slightly more broody blockened than in the make. As variations, very dark spectases are sometimes met with, in which the lighter points as on the Securing are

duck specimens are sometimes met with, in which the lighter patishes on the fipulaced. There is considerable individual variation in this species. Sowerne : 16: 450 mm.

Sange: Crylon and Perdarder India, as for north as the lower slopes of the Himshyna, also North Burms. It is self to be abundant in ceylon up to an altitude of 4000 feet.

Hisbits; This is no common species, the lareas of which the vertelization by the leaves of species of Carnetines, promoting on various trees such as the Mesgin and other legislations plants. Their flights work. They may be deen seen fluttering above showing highly species the time top as some, the leaves because of the first object which the leaves because the corn metting with the weight cheed on weet perchase of early on the maddate or on street.

This overgines have been franched the Privateria can. Life, Br. Friederis, in Privateria and the Carnetin such can be considered to the Privateria can. Life, Br. Friederis as Privateria and Their Reservation and Carnetin such as a first private and the private such as the

Delias thysbe kandha Deberty.

The Red-broast jazobel.

### Plate VI, Sgn. 667,

Specimens is the collection: Three, Vingaparanau, 70 mm. In one of these, the left hind wing is slightly broken and incomplete. The average expanse of tybese specimens (70 mm.) is 4 mm less than minimum recorded expanse for this species.

Description: This species is easily distinguished by the presence of a large, red basal area on the blad wing.

O P Its upperside of the forestig with only gry markings on a blockish brown country. The address registers are larger and the dark areas are also availed and recovery.

sharply defined than in Delias shyster payareas which occurs in Nethern India Diepal and Assaul and Burras. The appension of the foresting beans sub-openal streaks which are obscuring tinged with ochrecus brown.

I'll did wing with a lance red beans area, its dated coins beans't bearing beans't beautiful.

First wing with a large red bend area. In distal edge being heavily bootscool with hiscis. The area beyond this besed red were in pale cream coloured with the prominent block veine terminating in the expanded black areas on the mergin.

The undertible of the hind wine with the discal merkiner and issuer area almost

urailers bright yellow, approaching a brilliant issues yellow. The based red area is an bright as on the upper sentice. The ochrisceous spot at the base is large and distinct. Expanse: 60 - 100

Range / South India.

Hightis: This is a mitter rare subspecies, and has been recorded only from the Einstein Charle between 2000 and 5000 feet in the Viragopatrean District. He habits are much the same as those of the group in general. It is one of the most brightly colored forms of delite need with its India.

### Dellas descombed leucacantha Fruhetschir.

black markings in most specimens.

#### The Red spot Josephi. Hate VII. figs. 1 & 2.

Spectmens in the collection i. One Skirly large male specimen from the Himskoyse, but its exact locality is not imports (80 mm,)

Description of 'I' The upperable is while with the costs and termen of the forewing servorly black. The spec is more broadly black, the black apical area extending on the margin up to a bour twis 4. In some specimens this spical area may be black white owing to the advantage of white security. The black during white, some for room the margin.

The underside of the forewing is block, with strengly developed white vein strenks. A narrow discoordinate bits but. There enlays bet with strengs and fluor submarginal within sports or expressed. The undersides of the last weight is being being being within abroad, such control of the bits of the strength of the plant with a proad, such control of the bits of the control of the plant with polarizable soft, the sum of the plant with the control of the bits of the control of the bits of the control of the bits of the

Q : The suppossible of the forewing is bleefs, with groytsh winter attracks. A sharply defined discoccibilate within her is greater, which con the lower win, forms a rounded sport. Green a submarigard within apoits are present. The latest wing is consur-coloured or yeldowish white with a broad block marginal border which enters the light-coloured area between the wints.

The underested of the forecent jac in the mask, but durine. The underested of the hind way is pick then in the mask. Use when their generated with wheth The manipulation being in spice of the wheth The manipulation between the votes. As which to the mask, with longer inswerd probaugations between the votes. As the last steads in present along the lone campain of the cell. The substanginal spice has been larger them in the make and usually more destroitly superated from one norther. The laboration of the cell of the c

Expanse : 0" : 65 - 88 mm. : 9 : 80 - 90 mm.

Awaye : Nepal to Buzzaa, at abbudes of 2000 to 5000 feet.

Hights: The subspecies incremently is much the commonent form of the present species. This batterfly keeps to the warre, low-valleys of the Himslayas, below 5000 feet. It is commonly found between Marchand December, its flight is week, and it may be seen frequently setting on flower.

LINE WE NO I

This genus includes the butterfiles popularly known as the Gulls formerly known by the evacorymous passe Haphine Moore, 1881.

Foresaing: The costs is suched. The spex is blant, the outer margin straight and the tornee rounded.

Hind pring: This is sect and broad with the costs suched and the spex broadly searched. The outer and inner macrins are slightly copyer. The torque is broadly curved and obtase. The cell is elongate with the discocolisiar wass disposed obliquely.

Two appeles are represented in the Manager collection.

### Cengra perises phryne (Pabricius).

Specimens in the collection : Eleven, Medeux, 46.5 mm.

automarginal dualty black band interrupted in area 5.

Description: This species is better known by its former synonymous name, Ruphing pertena e spoetta (Cracper). On the appearable, the Scowing bears an apical black area with prominent white

souls. The bind wind has the marrinal black harder destated on the tuner edge. of . On the underside, the costs and area are tineed with vollow on the forewing. The underside of the hind structs continue sufficient with voltage and hears a programmi

2 The black markings on the wings are much broader and more extensive reducing the white patches of ground colour considerably. The focusing usually bears as line and article areas. The cell is benefit benefited with blackish between leastest only a white median streak. The wirss are all darkened and bordered with black; (in the single formula analysis in the collection, those black markings bean field into brown). The bind wine bears prominent submarated white spots within the rather broad, blackish broam mentical booter. The underside is as in the male

The above description applies to the wet season form which is the nominativoical form, to which all the specimens in the collection, except one, belong.

The dry around form, termed progress is characterized by the black markings better very restricted on the superable of the wings in both the male and the female, aspecially on the hind wine. In the male, the hind wine booder is reduced to a few win apota as in the reserve are rivers to which they are rather fields marked in some anectroms they may be absent altogether.

Empres : 45-55 mm

Range - Caylon and Pennisular India up to the North West Provinces and Nepal.

Highlir: This is a variable species, common in and around Madres. This is common

builtedly fraudt throughout the plains of Irolla, seconding up to 4000 feet in the threalespes and to 8000 feet in the Milleyn and other Julia of bouth Irolla. The larms of these butterfiles feed on appoins of Chipportie which are consumerly found in nil most of country. These butterfiles are found at the peer powers and here wherever the food plaint abound. That faight is seven good more or less to a simplify like. They frequent plaint abound. That faight is seven good more or less to a simplify like. They frequent are common in the classic social for research to the common for the class are seven to be an extra plaint and the common for the class are of the common for the class and in frequently threat in Milleyn amount practical to the com-

### Copora nadina remba (Mecce)

he Lesser Guil

Plate VII. Egs. 4 & 5
Specimens in the collection; Two, South India. Both of them belong to the wet season

form which is the commonlypical form of this species; 53 mm.

Description / Wet season / of The uncertaint of the forestor dusky white with the

peoripoles: wet season: O The appearant of the forestig duary wide with the spical half internety black. The base bears a black fings. Hind wing with the distal area suffueed with black guy and the outer margin with a mercur black booker which

? : The upperside is brownish black, with white central areas. The focusing with base of cell and upper based half of one 1 white, densely dusting with black. The aprecial of of the cell and base of area 3 and the based two thirds of area 2 are white, including a subgranginal large require april in area 1. The hind wing beans a triangular central white.

Q' Q': The undereade is a rich yellowish green with darker areas and a large, prominent, bright yellow subspicel spot below which is large, block, irregular patch. The hird wing is greenish yellow, with the wins block, and a bright preceding with regular part in the middle of areas Q. In the female, the distribution by notion to the freewing is larger

and more prominent.

The dry senson form, which is termed Spatia (Swinhor), in which the black markings above are more restricted in the male, and the underside of the hind wing is pole yellowish.

brown in the both the sease, is not represented in the collection.

Expense: 55 - 65 mm.

Range: Peninsuler India, Western Ghain. The Crylon from is Copora madina cingala (Moren).

(Moore).
Highlis: This businerly frequents hilly regions where there is abundant rainful. It leaves to the thick forest undergrowth and comes out only occasionally on short, irrevalue.

Guston. The Servator are on a role much accepter, in Seath Indie, this associatie confined to the middle regions of the Western Chairs and is common towards the end of the many season. The larger first on energy of Councils. The exts are laid on the learns or other parts of these plants. They are active butterfiles found mostly in thick

This germs comprises the butterflies commonly known as the Sowtooths. It includes three energies from India, of which only one is represented in Covion and South India. Their matrice america of Delive but recesses worth attender require of State. The costs of the forcestors are widely arched, strongly serrote in the made. The uppercise of the winds The bond what is more or less swiftern, with the costs nearly straight from the base

almost up to the epex, and then strongly arehed. The wings of the female are of the rounded type, more or less as in Delica while those of the male are pointed.

Bufferfiles of this genus are inhabitagits of the jurgle. The males have been observed to visit flowers much frequently than the females.

Priemeria etta (C. & R. Felder)

### Plate VII. Gro. G & 7

Specimens in the collection - Two, one of these is from Wynaed and the other from Malaber #3 sum: The spectrees from Wygood is a dry sensor form while that from Malaber is a wet season form. The species superficially resembles Delize sucharis, the common Jezebel.

Description : Dry senson form : of . The uppenside is white, with a slight groupsh. tings to first anythera. But this is fiving in the present research anythers. The sales are narrowly bordered with black in the forewing, and in the bind wing, they are still more normally marriaged with black, and this is only over the distal nortice of the wine. The outer margin of the forewing is marked by a narrow black border formed by the triangularly widening terminations of the vein bands. A thin, more tool black band is also

The underside of the forestor is white, with the ages thread with vellow and all the veige broadly margined with black, but these win bands do not expand at the margins as on the uppercisio. An IB-defined, accressival broad, greateh black transverse matriages. up to the broad, marrinal area which is occurred by a series of laure, marrinal briefut and chlorator transplantering aband mote. The print are benfured parameter but at the same time boldly with black. The head and thorax bear long, closely set bluish grey hulm. The abdorners is white.

### PEATE VII

Pig. 1. Defins descombest leumenstin Pruinstorfer (doesné view, x <sup>9</sup>/<sub>4</sub>).
 Defins descombest leumanation Pruinstorfer (wentral view, x <sup>9</sup>/<sub>4</sub>).
 Gepora nerissu phryme (Poletician) (natural elan).

Cepora nadina remba (Moore) (dossal view, natural state).
 Cepora nadina remba (Moore) (ventral view, natural state).
 Prionoriz alia (C & R. Felder) (dossal view, x \*/<sub>a</sub>).

7. Prionecte alia (C & R. Pekler) trentral view, x 1/4).

S. Anaphets surets aurota (Febricius) (natural size).



Q: This is similar to the main, but the black edgings to the wise of both wings on both the sides are breader. On the uppendix, both the wings been a diffuse, greysh black positions haved. On the underside of the forwards, the cell is travened by these sheader longituations black from. The yellow and red markings on the underside of the inink wing.

Wet season, form The specimen from Nadras, which is slightly larger than the performance is a vest season form, distinguished from the day season force by the vern being more heavyly facing and and in the markings on the undessible large more desired aspecially in the male. In the Supale, the upperaishe of the investing beans three slengter grayths black lines in the cell and the apen of the Survesing is more recursed data in the state.

#### Sentence 80 - 90 mm.

Range: Crylon and Prainwaler India, especially the Western Ghats. Not common, the females being particularly rare.

Histor This speces inhabits large evergeen forests in the Western Ghata, and is found almost throughout the year. In Coylon also it is found throughout the year, but specially during the South West sourseon. The makes of this species generally frequent the tone of this tones and in the but down recording the monocon, they may be seen in

specially quaring the south west animated. The makes of this species generally require the tipps of tall from and in the but days preceding the monescop, they may be seen in dump places such as given bads and wet patches of send. This species bears an extremely close resemble not to the Common Jesshal, Deline sucharie. Downy), but the flight of Privateria sits in such elements and swelfer than thet of Deline sucharies. The latter is

#### Genran Anaphels Hithmer.

The appoint formerly desired to the girons Belvools are now included in the game Anaylow. The costs in the forecasts, were splittly produced, most strateful, The spec in slightly produced. The outer margin is slightly produced. The outer margin is slightly produced. The outer margin is slightly entered in the state of the strategies of the slightly desired than and the length of the warg. The anteriors is delay, "The other slightly desired than had the length of the warg, with the child but the outlier beread and factorised."

Out of the eight known species, only eren. A saveds occurs in India, and of the two focult this species, our, passinly A saveds is problem bloomed to extinct to Cyclen, while the other, A saved arout [Principlan], before known by its more implication reason Beleinshi sussention reasonion (Crazer) is recorded from all over India, and is the form which is represented in the Moureum collection.

#### Anaphele aurota aurota (Fabrickas).

#### ----

#### Place VII. for fig.

Specimens in the collection: Scenn, of which six are from Medies and one from Sectional NS 5 mm, inhibits brains than the exhibits record)

Description:  $\vec{O}$ : The upperside of both the fore and bland wing is white. Forewing with a broad black spinel area narrowing to a point rounds vein 2. This area is marked

with the streak. His transverse spote of the white gipcond colour. Of these the selective four are transversely clougels. A preciation of book. curved discoverblair has it present at the upon of the cell. The third wing beans a marginal black booker frome veits 2 to 0, with a series of four resumbed white epols in seem 2 to 5. The undersides of the forestics at similar to the unconside. but the martiness are more

clearly defined and the apicel white spots are larger. The underwide of the hind uting works from compressible to a rich chrone yellow, with the white broadly beginned with black. The manginal black border and white spots are as on the uppermide.

9. This recombles the make, but the black translations are breaker, and the white anisol

apots of the foresting are often partly obscured on the uppendie.

In both the excess the head and obscuren are white and the thouse often blatch over

above.

Of the even spectmens in the collection four belong to the wet season from described

noves.

Dry season form: The dry season form is designated bordon (Walker). This is similar to the wet season form, but on the upperaids, the black markings, especially the curved discocollular box, are morrower and the white spots on the agical black ages of the

discontillate but, are neurower and the white spots on the aginal black uses of this forevers are became and legal end on the half weight white submarghal appear larger and are aliased continuous with the white glorand colour on the fance side. Pertitut, the underside of the hand will be of a much plant prider colour bank in the wei season form. There of the seven specimens in the odds data belong to the day season form.

#### Espanse 40 - 55 mm.

Name - Throughout India, except Assam, The range of this subspecies also extends to Polostine and Altico.

Hisbits: This is a cocurrent butterfly of open country, inhabiting expectally day regions, but ascends to an altitude of 6000 feet. He flight is strong, but slow: It is find of repretate, and both score frequent flowers. The appearance of this form is reserved. It integrates to recover when it is removed.

### PLATE VIII

- Fig. 1. Appire ininge knape (Doubleday) (natural size).

  2. Appire indru akina (Swinbos) (natural size).
  - Applies Highless Highless (Palertona) (natural site).
     Applies burging toprobang Moore (patural site).
  - 5. Appian fyrickia foljikustutu Moore (dorsel view, natural size)
  - 6. Apples lynchis latifisectole Moore (Ventral view, natural start.
  - Applea (gracido elecencia Bioledure) (pertural size).
     Annesa ellules desselo (C.B. Erbbert (estren) elle).



PLATE VIII

#### Genus Applas HÜbner

### This genus comprises butterflies commonly known as the Pullins an Albetrosea.

 $\hat{G}^{\prime}$  2. The costs in the Evering's widely seched. The space is native changly pointed or elliphyty resulted, hospital pointed are from the time in the rank. The source creditive is negative in the place of the result in the rank in the ran

Six species of this gimus are represented in the collection and one of these species, Applies species is represented by two roces in the collection. The lawsy gives in the France of British Indias volume on Butterfiles (Vol.1 second edition) by Tables are helpful in distinguishing these species as well as others represented in other parts of India. Many of the secoles of Anobias ser formed all over Profunders Indias and Corkon.

### Apples lalage lalage (Doubleday),

#### The Spot Pettin. Pinte VIII, fig. 1.

Spectrees in the collection One, Naturalisal Region of the Schikked Forest. Transverly Deletick, Scouth Instit. The appears to be the first record of this appears from Smuthern India as Tulbet mentions its range as United Provisions, Management to Sturras and Wyster Skotter in as Citical to Sturras and Assaura. Automa shot offers this as a recrease species dross the Firstalegas, Scickian, Bluston and Assaura. The single appointment in the collections.

Description: We seams force: Q<sup>2</sup>. The supervisite is write, the foreign with the lessel sum density suctions with black. The beats hard from toous is striped with dusky pollow. A large block spec is present on the lower discontinular visit. This spec is tooker another larger black spot in seen 3 and this spot intensit with the marginal black, enablanting a securival trinsignist white suchassignal spot in sect 3. There visity lastly concluding a securival trinsignist white suchassignal spot in sect 3. There visity lastly white. With a frequent of the spot in the spot of the spot in the s

The underside of the forewing is white, with a black disconliniar apet so on the upperside. The base of the loss is yethowsh given. A thick, post-discol curved block band in present. The apteal area is given by yethow. The underside of the lated wing is uniformly dull yelforeish, the wen being of a largiture yelion colour. Paint; very discal Q: The block markings een more extremely than in the make. In this forwering, the appeal tack care months into the cell and is extended as a trainge to the hast of the cell and the assignment has the same of the cell and the assignment block are in very bread. The first verige is white over two. Other of markings and the cell and the cell

The head and thouse are tufted with greenish yellow hates in both the sexes. The profession of the head, threat and obtained are valuately white.

In the dry season form, (designated organized Statier), the black markings are more contricted. The male often has no terminal spots or border on the upperside of the bird wins:

#### Processes 55 - 80 ram

Surge: Himsleyes, Stickin, Starien, Assem, United Provinces, Massource to Burna.
It is note in South India, the only record being the present spectases collected from Ralabland Poreal in the Towards District.

Minite: The habits of this species are generally those characteristic of the genua. meritioned above. This is on inhabitant of the hills successful up to an altitude of about 6, 500 Sec. Not much has been recorded a specifically about its habits.

### The Plate Pulle.

### Pinto VIII. Dr. 2.

Spectrums is the collection: Six, Wymes and Coorg, 52.5 mm. This is less than the sinus; recorded capeage for this spectre.

miximum reconfied expanse for this species.

Description: Q<sup>\*</sup> : The uppermite of the forcestry is white with a broad, black aginal area, generally with two white spots. The black area is produced inwards in area 3. There is no teakied black agont in area 3 on in the preceding species. The uppermits of the bind when is within a Without a black macronal border. The norm of the freeword is necessarily.

The underside of the foresting is sethout a disconsidule black appt, and no upot in area 3. The uplead area is occlusorous bestered with teconsish black. In the hind strg, the possed oction is veriable, mostly pale growth brewn, and there are more or less distinct transverse bars which may be interrupted. A satisfie back disconsibility appt is present and similar rangingful appr. says also be present. Q: The black markings are more extensive, especially on the hind wing on which there is a narrow black marginal border which is absent in the male.

Spectrams with perfectively broad black spical sees are separated into the form shellle Fruinstefer, but all the spectrams in the present collection belong to the securiorypical form.

In the dry someon form, the black markings are reduced, Expenses 60 - 70 mm.

Range: Peninsular ladie and Coylon. But it is rare in South ladie and Crylon, while it is consequenced North India. It is said to be absorbed in Cooperat action seasons. Sou

a re-version of the specific and the spe

Inside and Coylon II is more. In South fortie, its distribution ranges from Cong to Transactors. If the high, as in height of about 2000 for each of South forties for each of South feet to fixed the open country on the hills of the Western Glans. The female keeps to the dense jumples, but the noise dense consecut to the open country and frequent dump places. The Coylon more is termed narrandos, and is durine.

Applied Brighten Birther (Brighte (Brighte))

The string Alberton

### umpes Autotroes.

Spectroms in the collection: Two both females, but their exact locality is not recorded. Both belong to the wet season force; 35 mm.

Beneription: f'': The upperside is white, with the spac, costs and outer margin of the forewing way merowdy marked with dusky black, this colour extending merowdy slong the value for some distance. The underside is pure white, with the costs and the sons narrowly bodiered with black.

9. The supercise is white, with the freezing black over the cents, apined seen and contrargation. The cells is also largely black. In the face did it continues with the central contrargation below the face of the continues with the central range and below the property of the contrargation of the contrargation of the contrargation of the central contrargation of the central cen

The dry season form, ares Swinhoe, is distinguished by the black markings being colored and more restricted end the undeside of the wings bears a more orderecous ground colore. the methings being some inventible.

#### Eventury 50 - 60 mm.

Resport This is executively a butterfly of the plates and open country and in perhaps the only protein of appearing the butter large from their larges. The large flat of the form of the butter large flow consolerably it is found in favored cleanings. Necessity if is not with all low elementation, but as it is a local original, expectations are so constitutes cought at on authorise of even explose for. Their flight is strong and the makes other widt flowers and froquent contribution. The franks is more flower than country flowers are flowers and formula to more free flowers than country flowers and formula to more free free flowers and formula to the first flower formula to more return to the flowers and formula to more return the free flowers and formula to the first flower formula to more return the formula to the flower flower flowers and formula to the flower flower flowers and flowers and formula to the flower flowers and flowers and formula to the flower flowers and flowers and formula to the flowers and formula the flowers and flowers and formula the flowers and flowers an

## Apples lynoids (Cromer).

Specimens in the collection Four; one of these belongs to the race inprobana Moore, two to the race implication Moore and one to the dry sensor from secons of the moscleances (Bolishwall, 60 mm.

Description  $C_{ij}^{(i)}$ : Both the wings bear an outer marginal block border, the trace edge of which is more or less dentated. The foresting is marrowed at the apex. The coats is bought block on the furnisher. On the hind wing, the black married destrated berder

The underside of the forewing bears a brownish black costal and outer mingland brofer, whence over the apheal area which is marked with a yellow subspicial spot. The

booter, widened over the apreal area which is marked with a yellow subspicial spot. The undesolds of the bind wing is bright yellow with a broad, obscolate brown marginal booter.

Q: The uppenside of the forewing is dowly black with conspicuous white interseene bunds. The uppenside of the faind wing is also dually black, except discol area which is write. The undecade of the forewing is whitish and that of the hind wing white or yellowish with board dualty, terminal area.

This species is divided into writous geographical mons, ranging over Crylon, Peninsular India is Sidding, Burma and the Stoober Islands. The Crylon race is superborn Money. The mee high-scale Moore, occurs in Pratisatelle India and cleaves (Supplement, Permetly Superm on hypother Money, extends from Siddin in Burma, over the Binasieram. All these three more are reconsented in the collection.

#### Annias Ivacida taxenhana Moore Plate VIII. fie. 4.

Spectroens in the estimation : One, Crylen, Q. 60 mm.

Description : Wet season form : The congress of the setup bears were broad black marrinal borden which are strongly dentate on their inner edges. The underside of the

O little sex which is retiremented in the collection). The uncertain of the forested is dasky block with the white transverse stripes well developed. The cell stripe is considerance. The unperside of the bind what is largely dealey black, except the discalages which is white. The dusky black colour of the wings has faded into boows to the present apecknon.

In the dry season form, identificated opering the black markings are reduced to the made and the underside of the bind wine is rain willow. In the female, the bind wine has a alastov defined black marginal border. Expanse : 55 - 70 mm.

Mobits - This butterfly renegally keeps to wooded country to wet and hilly restons and is frequently found flying below 3000 Seet. Its flight is strong and swift. It is often found in jungle clearings and sound forest etreams. The make frequently hover around small shrubs and bushes and settle in large numbers on moist patches of send. Aurilea Irracida latificaciata Mucro.

### Plate VIII. Gev. 5 & G.

Specimens in the collection: Two, South India; 64 mass

Description: This was is not distinguished by allebid differences from the providing race from Covice. Both the specimens in the collection belong to the wet sesson form.

which is the nominatorical form of this race. The unperside of the Sourcian is white, with the dark mentical borders merrow, and

durates on the irror acts. The impresses of the bird wing has similar duals black marritral border depitated on the inner edge and beedered inwardly with blank grey. The of the cell. Veins I to 8 are conspic yously blackened and the basal half of area 6 to marked

This is very similar to that of the preceding more. The white areas on the forewing see

In the dry scason from the black eress are more restricted and the underside of the black wing in polar and the value 6 to 9 are not blackmard.

#### Separse : 55 - 70 mm.

Rivege: Pentianular India, according up the hills to an altitude of 4000 fort. In South lada, where this rice is found along the foot of the hills in the Western Chain, and in the Nightin. White is found to fairly common and may be seen at all assumes of the year.

## Applas lyzelda elececca (Boleduval). Plate VIII. Sc. 7.

Specimens in the collection r One main specimen belonging to the dry season form (secons Butler) but its exact locality is not recorded. This race was formerly referred to as hippoides Moces: 60 mm.

Description:  $\mathcal{O}'$ : The upperside of the forewing is white, the contail border of the forewing and the dark border of the hind wing are Dashed with a bluish tings. The merginal black border is destrain on its larger edge on the forewing, but on the hind wing the tonce relate of the merginal border is early feeling with a border in early border is early feeling with the same relate of the merginal border is early feeling when the forewing is a small power in early state of the samplant border is early feeling when the feeling is a small power in the samplant in the feeling when the samplant is a small power in the samplant in th

The under side of the ferewing in white with the costal area mere or less demany dusted with black, and spread out into a broad, black opinal erea. The underside of the hind wing is subjetur yellow, the dark merginal burder being much wider than on the upper surface.

Q The upperside is douby blockish brown, with improveme white stresses on the foresting. In the hind string, the besid area is withe, sugging into the doubt dish area. On the underside of the foresting, the with stress are broader and more extensible. The hind store is not undersided for the foresting the hand two thins of the area. The area area.

is dosky browsish black.

The head, thorax and abdomen are white, with a bluich tage.

The day account from monate to which the present specimen belongs is distinguished by the marginal black border being recover. The female recombine the scale of the work recombine the related for the recombined of the present form. There is consolid evident in this more and informaticials forms

on form. There is considerable scanonal variation in this wen the wet and dry season forms occur.

#### Apples albina darada (C. & R. Projec) The Common Albetross.

#### Place VIII, flg. 8. Sourcement in the entireties: Sourcement mouths from the Kilder's and from the

Nacial sources Hill, Chinal cost District by Mr. Barnes. Of these, about eight specimens. to complete rable seasonal variation; 54 5 mm, labout 6 mm, smaller than the minimum

Description / Wet session form: of / The upperside is white with the spex of the foresting acute. The cester margin is straight. The upperside of the forewing bears narrow, black, apical and terminal markings. The basal dark area has a diffused and incurred

edge. The upperside of the hind wing cometimes been small black spots at the ends of the wins. The underside of the hind wine is without any markings, but on the underside of the foresting there is a clouded oblique discocellular black band which projects towards about its middle. 2 The appearate is white. The open, costs and termen of the forewing are black

with four to the extent white exerts. the terroloud houser before indented to, area 2. Thereto a light greytch bitted scaling over the based area. The appearable of the bind wing bears a payrose, black marriage border dentate on its larger edge. The sessonal variations are Day around from a cit. On the uncertain of the formator the black animal and

terminal markings are absent, so that the entire forwing is simpet uniformly white above, except for a stretch black scaller over the coats. The bind which unmarked. The apical sees on the underside of the forestor, and the whole of the underside of the lated where one shall make polymorous.

There is one specimen in the collection from Narabuscam. Chenralput District. which is white above, with ecretared light brown proches. This appears to be an aberrant dry season form of the same species.

Females 60 - 25 mm

Rosser Ceylon and Pentosuler India on to Stikkin, and extending to Russia and Andarraes inlands. In South India, the range of this species extends up to the Western Ghata to North Canana and is found acattered in Various localities throughout the Peninsule. In the Nigirie, it is one of the most abundant species. It is also common in Caston, Coore and Bapeniore

Habber The flight of this butlerfly is fast and powerful. The males sometimes congresses to large purplets in damp pinces. They rest underpeath leaves during the hot

### Apples world (Moore). The Leaser Albetroes.

#### Hete IX, Sc. 1.

Specimens in the collection One, South Coorg. It is a male and belongs to the wet

Descriptions of i The uppercases in white, with the pattern of colouration conceivable conceivable that of inclusion of appears about The bases of the forewing to boundly dustical with block (which in the present spectrum has finded into Bottish grey). The appear sumpoint areas are falled conceivable for training and appears and an immediate training to a service white apart. The uppercase of the hand only thousan a slight block dusting the appear of the service white apart. The uppercase of the hand only thousan a slight block dusting explanation and uppercase of the service of the service of the service of the service explanation and upon the service of the service of the service of the service of the service.

The underside of the focusing is white, with the optical area butter yellow and bearing a narrow, post-discoal age ag irregularly oursed black burst. The underside of the hind wring is burstly yellow.

9 : Table is more or less strailer to the male, but the focusing bearing only two actions.

optis and the block areas are much more extensive. The black duefing over the based own is more dense. The based half of the old is sulphus yellow. The post-discal black band is much twooder. The underside of the hind wing is pearly black withe.
in the dry someon from furnished the black areas are more metricised. The nucleal area is

more diffuse, with the subaptical spots very \$1 defined. The hind wing has a yellow tings in the femole.

Берегон: 55 - 75 нам.

Roope: Penkaudar Irolla, Kazaca, Migiria, Coorg, Trivaneore.

Hobbits: This is a more species, but is separtimes fieldly common on the Ghaia, and many confined to wooded copyrity below 2500 feet. The males are at times abundant, pothering in large numbers in demp-places. The habits are very sizeflat in those of Appies

Gerras Pierie Schrank.

Decopolose:  $\mathcal{O}_2^2$ : This groun includes while butterflow of modernie size, while keybolt markage. The forwards plants an obline appear and no nechado casis. The toreast is broadly recarded. The bind strip is breadly subtriangular, with an advance worstly recarded renogate, the epox, tenses and downsom being arrived seed frenting a continuous curve. The arrivations are about half the length of the decessing, with a small generalized relating the continuous curve.

Most of the species of this genus are confined to the literalsyss and the hills of North east India. Only a single species occurs in South India. This and fire other species are represented in the collection.

North confidence in Donne.

# The Indian Cabbage White.

Piete Di. fig 2.

Specimens in the collection: Six, from of which are from the Pulmy Hille-16 mm Description: d' 9: The upperside of the forewing is white, with a black upleal area and a black outer marrets which is dentited towards. The decadance bears a recombine

equantish black spot in sees 0 and a similar black spot in zero 1 b. The hind step bears an apical pot adjacent to the costs and a series of marginal triangule black spots potated inventiby

The underside of the forewing is white, without marginal and opical black areas, but

the two large, equarish black spots in interspace 3 and 1 bear precisionst. The undensitie of the hind wing is uniform, due ted with grey.

In the female, there is an additional discol spot on the upperside of the foresting.

In the southern race comic Evens. to which the present specimens belong, the black some are wider and the underside of the hind, wing is dusted with black leaving stripes of the yeldowide white ground colour, extending half way form the margin, and one long stripe along the middle from the base, through the cell to the margin.

This is more heavily muched then the typical form tedion. The morphal black spots on the hird wing are much larger and in the forewing, the cell and bund area are more heavily dualed with black scaling.

Expanse: 45 - 60 mm.

Range: Peshwerz, Himslayes, Assens and Burms. Hills of Southern India: Nigots. Paints and Hills of Tensancore and cochin.

Hebits. This species is common in the Nilgitis above an altitude of 5000 feet. In flight is weak and it generally keeps close to the ground. It is often seen flying in the open pieces and frequently settles on flowers. In Southern helds it is found only on the fills of Transverse and the Mistric, but a solitory operation has been collected from Ramadorn.

Pieris callidies kalees Moore. The Lofty Buth White. Piete IX, fig. 3

Specimens in the collection. One, male, its exact locality is not recorded: 40 mm (10 mm, smaller than the minimum recorded expanse).

Description 1.0°: The upperside in white, with the boast area black. A more or less nature, rectangular, tensaverse black spot is present at the and of the out. This is followed by a post-disoned envelope entired of post naturally prolonged. A statisher series of their, manufact prolonged, A statisher series of black, manifold triangular spots, produced and potential transactive are present. The uppersible of the failth whige is unassired, but the head area in disonate with black.

This undersides of the forewing is white with black area is the base of the cental margin and a black discondition rectangular spot. This is followed by four black spots and a marginal row of deregoin green lines reaching up to the outer tangin. The underside of the bind wing is green with an only withinh white spot in the cell and post-discond and marginal rows of interesting boated elongate yellowish with spots.

The arternace or black, spotted with white. The head thorn are brownish and headable ere respectively and abstract with white the head thorn are brownish and headable ere respectively and abstract white above. Their understates are white.

§ : The upperside of the foresting is similar to thet in the mele, but with the merkings much larger and on the hind wing the band black dusting is cotenaive.
On the underside, the spinal and marginal green areas are more extensive on the

on me unscreede, the spital and marginal greek areas are more extensive on foresting, and on the hind wing the elempage marginal spots are narrower. Expenses 50 - 60 mm.

Remore Nicth west Proutice Province, Chitral, Kumann and Ultar Problem.

Hobbie: This is a common species inhobiting hilly regions at high elevations. Its hobbs are more or less the same as those of the perceiting species.

Pieris brassions (Lizznesse),

# The Large Cabbage White.

Spectroma in the collection (Two, both moles, Their coxet locality is not recorded; 60.5 mm. The smaller spectace is 9 mm. smaller than the univariant speculoid superse. Descriptions: O': The upperside of the freeding is white with the apical area broadly block. There is no discal acce on the forestign. The upperside of the hind wing

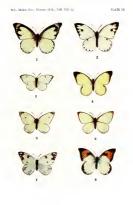
The undereide of the foresting is withe, with two large discal black spots and the undereide of the hind wing pile yellowish, dualed with black.

This is similar to the mask, except that there are two discal apole on the appreciate of the forewing. The block mergins on the forewing are also more extendinely developed. Excepts: 95 - 75 mm

# PLATE IX

|  | ٠ | 2. | Picris custife costs Evan   | s (mature) etre).   |
|--|---|----|-----------------------------|---------------------|
|  | - | 3. | Pierts cultistice kulora Mc | ore (oneural eige). |

- \* 4. Pieris brassione (Linnamia) (natural siss).
  \* 5. Pieris rapea (Linnamia) (natural siss).
- 6. Pierts mapi sjoka Moore (natural size).
   7. Pontic daplidice moore! (Rober) (natural size).
- 7. Postiu daplidior mooret (Rober) (natural sise)
   8. žeku mariavne (Cenzer) (natural size).



Range: This is a widely distributed species, ranging allower Europe, Baluchiatan and the Himsleyer, up to Assem, and the plains near the foothfla of the Himsleyes.

Mahita: This is a very common species ficural abundantly in the Hinadayas, normally between electricias of about 2000 to 12, 000 feet, but it is also found in the plaints near the Hinadayas during the whater. Some specingues are migratery. The leaves, which are binish green with black dots and yellow stripes, feed on cabbages and allied plants of the tenth. They like us.

## The Social Cubbegs White Plate IX, Sr. 5.

not recorded. The only indian more is impiez Le Cerf, to which the present specimens belong  $46.5\,\mathrm{mm}$ .

Description: Of - The upperside is white, with a portion of the control the forewing and the bases of both the ways feely dusted with block. A small area at the apex of the forewing is black, the width of the block ones being variable. A discultible, both is possent in area, 3, but this may be abbent fin area of the present specience it is about 1 in about 1 in an of the present specience.

upper half of the cell. The underside of the hind wing is white baselly, and cresscoloured distriby.

The antennee, head, thorax and abdomen are block, bunded with white above; the undertide of the head, thorax and abdomen are white.

Q: This resembles the mole except that there is an additional discal black apot on the upperatio of the foresting and on the underside, the entire hird wing is more reflected; then in the male.

Exposure: 45-55 mm.

Songe - North Pennis to Balanchistan, Chitzal, Kashmir and Ladak. Also North West
Pontier Province. The name of the species as a whole coverage over the entire Paleonartic

Frontier Province: The range of the species as a whole octends over the entire Paleourric Region, Including North America.

Matthe This is a very widely distributed species. The present race is distinguished from the typical European form by the legger black against even on the foresting. The Indian race is mad to be common slow on a although of Mood part in Chitral Paleouring.

# Pieris napi ajaka Moore.

Place IX, fig. 6.

Spectreens in the collection: Two, both females; their locality is not recorded. One of the spectreene is incomplete:  $40\ \mathrm{mm}$ .

Description: \$\tilde{\pi}\$ : The upperside is white, with the voice eligibly declared. The space of the forewing is black; a discal spot is present in interspace 3 that this may be absent). The underside is yellowish, with the voice nucleof greenish.

 $\varphi = i$  The upperside is white, the upperside of the forward bears a black spical age and a large sheaf spot in area 3. There is an additional spot in area 1 is. All the vetra are blackened. The upperside of the shad wing bears a large agical spot.

This species is subject to considerable seasonal variation, the wet season form being daylest.

Remove: 40-55 mm.

Brook : Morres to Komaco

Habita This apecies is confined to wooded country to the bills, respectably year

atreasse and rivers and is locally absindant. It is common in the Himshyes at high elevations, just before the raiss.

Genus Feetis Pabricius.

This genus closely recession Fieris and formerly united with Pieris, but the forewing into only size veins, the veins 7-5 and 9 being fused.

The black spinal area on the upperside of the forewing been prominent white spots.

A large, aquarish discocedidar spot is also present. The underside of the little wing is greenish with rows of white spots.

Of the three Indian species of this genus, only one, Posts displaine (Manneura) is represented in the collection, by the typical inflator new, morred (Bibbert).

Postin daplidice moscel (Rober). The Bath White.

The Both White. Plote IX, fig. 7.

Specimens in the collection Two, both females; their exact feeality is not recorded; seen.

Description: C . The unperable is white: the black appeal area on the unperable of the foresting bears white spots and lines. The foresting and basel helf of the costs are corrowly dusted with black. A large, aggregate discocellular and is present on the appearable of the forwing. The hind wing is uniform, with the markings on the underside absoring through. The underside of the forestor is white with the base of the cell dusted with green. A black discocoliular spot and another black spot in area. I have present. The underwide of the hind wine is green, with a rounded white soot in the ruidile of the cell and a current treatuler reat, discal hand of connected areas.

O This is already to the male, but with a discalar of its area 1 horse the suppossible of the forewing, and the hind wing bears a large costal black spot and a series of faint

Emanse : 45.50 mm. Rayse: The range of the species as a whole extends over Europe and North Africa and thereach North West India to China and Stherin, but the Indian automates to which the

present specimens belong is confined to Baluchistan, Chitral, Kashmir, Punjab and Mobile : This species is common at high stitlades especially in the Kashmir Valley.

Genus Index Highwer.

This sergus includes the butterfiles popularly known so the Omige Tips. They are white or yellow butterfiles subject to considerable seasonal webstors. The make generally

bears an orange or vellow apical area on the forewing. Descriptions of Q : The costs on the foresting is regularly curved and the outer margin is straight. The arex is rounded or obtuse. The tornus is rounded. The cell is cultificate broad and about bolf the length of the wine. The bind wing is about end broad

with a broad cell. The club at the end of the appearance is thattened and apartulate. The make the feet and executive in large numbers in set places. The females are slower in their flight and fromount flowers. Most species are found on the pistus and are

way controver and facelike. In the set assessed forms the black markings on the uncertainare more prominent.

Both the common indian species, Irian marianne and Irian parene are represented in the collection, the latter by the subspecies senia (Fabricius) (formerly known as

frequents Butler), which is the only subspecies of this species recorded from South India and all over Pentroular India up to Beneal.

### Itias mariames (Crumer The White Crumps Tip.

are also covered with reddish brown below anteriorly.

# The Wilde Orange Tip. Plate IX, fig. 6. Superioress to the collection - Four. of which two are four. Madron. one is from

is rightore and the fourth from an unrecorded locality. Of these, two are made, and two females. All of them belong to the set season form which is the nominotypical form of this especies: 56 mm. (This is alightly larger than the maximum recorded expanse for the species)

Description of: The upperside is chally white. The upteal half of the wing is block entangles along how and agoed patch of orange, which is storate to the upper angle of the cell. The patch is broadest opposite the spot. But narrows positionly. The block is reduced to a narrows band along the eyes and the central mergin. The hind wing bears in this broad block terrorial bearing the circumstance of which he are such as the patch of the control mergin.

hase of the wings is dusted with block scaling.

The undreade is a rich singlement-wilew, eighpied with rational does. The compaperation of the uppended school rectification of the rectification of

2: This resembles the male but the orange patch on the forewing is measurer, truncate behind, and bears a series of four black spots. The underside is as in the male, but markings are eligibly larger.

The dry season from logations Moore) is smaller, with the orange patch on the forceting larger and polar and the black burder on the bind wing narrower. The markings on the underside are more promised then in the west from but the west ensembles the market on the uncertainty and the properties.

superconvolute della.

Respectorylote, Pentrouler India, Punjob, Saureshira, Bengal, Kumaon. It is common throughout its range.

Habits: This butterfly always files rapidly very low above the ground. The makes often written on flowers and bushess and occasionably gather on dump patches of send. This forced is not receiving and set freeding byte flow energy the hedges and undergrowth. The properties are included and byte flow energy the hedges and undergrowth. The properties are included and the properties of the send properties and excluded, not done not unusually above than the off the new details only on the receiver are to be send. In Eight in temporal and bester than the off the new details of the properties of the

## Isiae pyrene (Limnessa).

This species is the most widely distributed species of the sersus and is also the qualiwartable. A recreber of races are known. Description of: The uppermide is vellow, with the costal border and the assists area and the outer murgin broadly black. A large orange band is present. The hind wing bears

a black outer border which may be reduced or absent in dry esseon forms. The underside is of a poler vellow colour, speckled with brown and both wings bear a discovering most and a submarated may of blackish become acts. The underside of

the forewing unually bears a black tornal aget. 9: The upperside is either yellow or white. In the white forms, the band on the forewing is also white instead of counse. The band on the forewing is usually interrupted of units 4. The center block area is accretioned extended over the schola street. The center

black border on the hind wing is broader than in the male. Only one subspecies is recorded from Purinsular India, and this is the only one represented in the collection.

Range : Japan, Formore to China, India, Andrenan Islands, Ceylon and Melast

### This is a synorym for fries parent frequenc Butler, by which name this subspecies

ixias uvrena sesia (Frahatorieri was brown formerly. But the name frequency is now restricted to the wet season form of Assertingers to the endirection - Name, Nibetria, Ramonkow and Madma; 52.5 mm.

Description of : This is very similar to the tweichl form described above. The

to the base of som 3. The outer black border on the hind what is also fairly broad

9 . This is yellow, with the band on the forewing also yellow, sometimes tinged with owner. The block areas are on the whole more extensive than in the male. The agricul hand is smaller in area and bears two black spots.

The undenside in both the agree is as to the typical form described above.

Exposur : 50-70 mm

Rospe : Pentraular India to Bengal. Mahoto - This is nitelecte simpler to the fitcht than Jetus marks one, but it files straight

and nother harriedly much in the same way as that species. It is a num-looking species fewerentter flowers and often reading on leaves. It is mostly found in sorub tungle at the bases of hills and to particularly fond of places abounding in theony bushes such as prickly pear and budged vegetation, and this makes it difficult to eatth them. It is common all over most of the low hill sarges of Southern India.

# This record includes the hullerfiles commonly known as the Araba and Small Orange

Tips. These are result, where or address reduced betterfiles with black markings and sometimes beauting an energy const over the space of the flowesting. The courts on the foresting. The flowesting is alightly serched and the specializately consided; the torquas is obtained, the single is alightly serched, the beingt of the wing. On the hizard wells the cents is varied, it is space certified and the outer ranges in a signify serched. The coil is less that which the signified role wing. The attentions are above, with no throughly subject, speaking the significant contributions of the significant contributions are above, with no throughly adopting a speaking the significant contributions of the significant contributions are above, with no throughly adopting a speaking the significant contributions are above, with no throughly adopting a speaking the significant contributions are also seen to the significant contributions are above the significant contributions are above the significant contributions.

The species of Chicks are scrong the most warbide of the numbers of the fursily Perislan, and carry of them solubly recardable records working and county disappoints. They are mostly inhabitants of day and sumi-desert regions of the plates, being solidor, found in forests or high little. These buttlettless during about close to the ground, the makes frequently settling on liverus they love suanchized.

makes frequently estiting on forware: they less sunshine.

Of the overs species of Caloris found in boths, three are represented in the Museum collection, eithough five of the seven species are consum and distributed throughout lottle, and only two species are confirmed to the day regions of the north.

Colotic colors (Consey).

The ground colour of the upperable is sistence plack in both the sexes. A black could busine is present on the forester, locatelary, corresponse triangular discoced-sider appet. A pair extreme plantapolor to present in area. In. The hard wing bears a broad, black center busines, bearing district presented leaker of the recovery relater.

This species is better known as amost under which name it is found described in the earlier publications.

This apacies has a wide range of distribution ranging from Africa, Aribia and Persia

Colotis calais modestus (Buthr). The Small Salmon Arab.

The Senall Salmon Arab.

Spectrovite in the collection r Six. Nightle and Godework: SS mm.

Description  $r = d^r$ : The collectrifien and markings are much the same as in the

typical form of the species described above, but the tornal spot on the upperside of the

# PLATE X

- Fig. 1. Initia pyrene aesis (Fabricius) (dornal view, natural size).

  2. Initia pyrene aesis (Fabricius) (ventral view, natural size).

  3. Coloris colais readesis (Butler) (natural size).
  - Colotis fizzata fiziola (Wallace) (natural size).
     Colotis exchario (Pabrictus) (natural size).
- Guiccis danne danne (Febrician) (netural size).
   Hebomola plaucippe australis Butler (x\*/\_).
- Natural generation organization (Pelder) in \*/\_L



feetwing to exceller and not equarish. The pole marginal spots are also smaller. The upperside of the hind wing beam a black band of specialized scales on the costal margin.

 $\Omega$ . This occurs in two forms one rescribes the male, and in the other, form abbus, the ground colour of the uppercise is white.

The underside in both the enses is uniformly dull yellowish without any markings or spots, but some of the spots on the upperside show through. A pair, whitch area extends as a broad hand a long the trace margin of the forestry.

Expense: 35-55 mm Stage : Ceylon and Peninsules India, upto Burms, lexcept the North contempart of

History: These butherfals have a weak, fluthering issued of Eight, but it is fairly straight and direct. They shawing keep does to the grownd and entition neithon of thoses. They are an an-issued travely travelers and prefet to bank in the sun, resting on leaves with their using pertuitive green. An sight, they were with their wrings closed over their better on the underside of leaves. Their food plants (belonging to the fairedly Selvanders-cone) are found in day, desert this regions.

### The Lance Salvage Arab

#### THE PRINT OFFICE VALUE

Description ( f) The appendix pair to deep autons but coince. The forming bears a complexion black theocolduse park which is distinctely expended from the contain border. A broad, black, apixel area is present, nurrewing to a point behind and containing epox for the ground colour. A nestine of result in agents appear are who present. The braid wing is untimorily selform buff with or without a series of tenegrical plack apox. The standards of the forwards passes are now probe of modified colour force bear and only probe of modified colour force bears and only probe of modified colours force bears and only probe of modified colours force bears and only probe of modified colours force bears and only probe of the proving the colours and only probe of the proving the colours and only probe of the probe of the proving the colours and only probe of the problem of the probl

This above through on the uppercide as a small mixed spot.

2 : This occurs in two forces. One resembles the male, but without the sex bound

greathered above. The second form is white, or partly white and partly selenon-half.

Three meen of this species occur, of which the Penkasular ladies and Caylen mee is
factor and of this species occur, of which the Penkasular ladies and Caylen mee is

### Celetie fausta fulvia (Writece) The Large Salmon Arab.

### Plate X, Sg. 4.

Spectmens in the collection : One, Nilgiria; 50 mm.

Description: This subspector closely resembles the accumotypical form described above, but in distinguished from it by the marginal black area on the uppenside of the forewing being extended up to the torman.

(d) The ground colour of the upperside is deep salmon bull, almost enuage-yellost. The costs on the forewing is howthy dusted with black scaling. The discoverhalest agot is large. The spotal area is black and encloses these fairly large, sub-spicial spots of the ground colour (of whigh the substitutions to the largest and inside or less transmissions).

elongules. A series of minute marginal spots of the ground colour are also present. The hard wing bears a series of fairly large black marginal spots.

The understale is the yellow with the morkings duely black on the forewing and minished on the bird wing.

The single specimen represented in the collection is a male  $\hat{Y}$ . The upperside is white with the basel and costal areas on the forewing duasted with projects blue. In the bind wing, there is a black marginal border and white marginal

apolis.

The underside of the ferewing is white, nonestance fairtly targed with polisis. The disconnections must be very large. A broad, nost disconlendable from band is present. The

disconsitular spot is very imps. A broad, post-discol reddish brown band is present. The underside of the hind wing is paie onlineases yellow lightly dusted with black. A postdiscal reddish brown band is present as on the forewing.

Expanse: 45-55 mm.

Range: Northern part of Ceylon and whole of Peninsules India.

History This butterfly fitter susch faster than members of the other species of the gensas. They fig greenly near the gastund and keep to open, day regions. They frequent flowers nameng the groover. The features are seen more meely. They are bastly ever faculty flowers are all the features are not begin to exclude plant in a valenting already, being four flowers are at high elementary. They for plant is excluded as a pecial of summer than the plant of the

# Colotte eucharia (Pabricas) The Plate Cronge Tip.

Specimens in the collection: Fire, Madrus 2014 Mysore: 46 mm.

Description c, d' = The opposite is pure withe. The forewing form a breast, spicel, coursing policies patiely, bardered with tright yellow. The base and costs of the forewing far a whort classicar are sparsely dualed with black. The coarge yellowspixel point property boars a diffuse black upon to it is lower inter edge. The band with plants a section of black meight with  $g_{\rm point}$  is large of the positions from the definition of the collection.

these manginal spots are totally absent, the whole of the hind wing being uniformly pure

The underside is usually ours white, threed with pinkinh value and authors with bright yellow at the base of the foresting. A proprinent sinuous dark brown band extends obliquely across the acical area. The underside of the hind wine is timed with ochraceous brown at the base and bears a subspical dark bown costal spot and a few brownish stries and migrate scots. Both whats bear black disconfining spots, but these are firled to the present appringra. The head, themy and styleman are black, and the bend and thorax are covered with abort, prevish brown balan.

9 The base of the costs on the appearable of the foresting is more heavily dusted with black scaling. The discocolinder and its larger than to the mole. The arteral area on the forwing is block, enclosing three, or four, elongate orange spots. The inner edge of this black area is rather diffuse and irrevularly structs. In the bird who the basel dueting with black is sparse and the subspical and mergical spats are much larger than On the underside, the markings are much larger and more connectuous than in the

In the dry sesson form, gurory (Courser), the black markings are reduced.

Expanse: 40 - 45 mm.

Range / Ceylon to Central India.

Nubble: This butterfly possesses a weak flight and keeps near to the ground. They are inhabitants of dry, open regions, and are generally found in large numbers along with other spectes that fired on plants of the farety Consentraceus (Casers). The first obest of this species is usually Codoba indica Lamarck, which grows in waste places. The male rests on the ground frequently and in dull weather they are absprish and seelly contured.

Celetie danae danae Pubrictus.

The Crimon Tip. Plate X, fig. 6.

Specimens in the collection Str. Madres and Codesort, 43 mm. The smallest specimen measures 38 mm., which is 4 mm. smaller than the minimum recorded expanse for this exertee. Supertures of this subspecies, extended the unites, are subtest

Description: of The appearable in white. The forewing bears a bosed intergular aptent common area edged with black inwardly. The forewing is with or without a minute discocellular anot. The hind wine bears a series of maretral black spots or sometimes

On the underside, which is white, the base of the forester is threed with existence. yellow and there to a bownish pink aptest patch, not edged with black and often more or less sufficied with ever. This patch bears year its inner edge on oblique series of four

The underside of the hind wing is sometimes simply pure white, but more often tinged with brownish pink to a varying degree. A ansall brown or black discontinuar apot is recensed this is accomplises aroughly below control with down red. A current discusbrownish bend is elso present. The bred, thorax and abdomen are black, the head and

9 The uppervise is white with the base of the winds benefit dualed with strevish. block. In the forested the reference united seem is smaller than in the male, and is make and screetimes reduced to a series of pain, rose-coloured sub-aptoal streaks. This area is always bentered with a black bard distally and often on the trable also. The disconnections spot to larger than to the male. A post-discal, anterior, curved black band is also present. The critision apical area is tiggered by a line of small black spots. The appearable of the hind wing bears a duelty discocellular spot and a discol black, curved hand. The marginal black spots are sometimes lotted together to form a continuous

through being covered anterturb with herapoints or simulab black bates.

The undertakle of the forestor is white, timed with height willow at the base of the cell and with a brown, grey or reddish tings over the apical area. The discocellular hers! and the most book are as on the expension. The underside of the book what is white. ringed with brown or pink. The discocellular spot is annular being centred with crimson. Magainal black specks, sometimes opposed by a line, are present.

The dry season form (largely Swinless) has the black markings much reduced and on the uniformide, the autoral own and the entire bind what are reddish bowen.

Emparise: 40 - 50 mm Ranger Ceylon and Pentasular India; Saurashira to Beischleisen. This species is said.

to be common to the Paint Hills from April to June and August to October. Habita: The butterfy files straighter and more steadily than mest species of Gelotic It is finant more to open stores than any other species of this down. It have clear to the ground. The females are seen more racely than the quakes. The large turns pink before perpetting. The feed plants of title spectes are species of Copports (Copports).

#### Genus Hebemoia Hubner.

These are the leasest of the Picride (Whitee) found in the Oriental Rugian, and includes the Oceal Orange Title. The forewing is triumpular with an exched costs and more or less acute spect, and bears a large, black-edged orange patch over the apical half. The hind wing is broad and sub-cests, with the spex and termal angle broadly coupled. The males meanify fly during the morning house, but settle on descep patches of asand during the hotter part of the day. The females are less active and love more to the bloshes.

A stagle aposite. Holosomic planetpee, which is the only species of this groun recorded in the Indian Region, is represented in the Indian near by three subspecies. Of these, only one. Highwestpee materials, distinguished by the inner thick edging to the orange paich being narrow or electric. In represented in the collection.

Holosomic flametime surfacellike Buller,

# The Great Orange Tip. Plate X, fig. 7.

Specimens in the collection; Three, one from Coorg, one from Medrae and one from the Nigicin; 30 mm.

Description: 

- The uncountry is white. The school helf of the formular bears of

large, black-edged orange patrix, which generally overlaps the end of the cell. A series of black, transversely elongate, triangular black spots are present on this company selects in this dystame from the outer mangin. On the which, the black markings are more reduced in both assess in this form, then in the nombed-yeard form. The inversals of the orange was a solid or more when the black and in the diff wassers form. It is without a work

odging. The hind wing beam a prominent black costal spot, which, however, is absent in dry season forms.

The underside of the forestor has the continual area white and the natical area modfield.

to the interestable of the index of the index when the transfer of the index of the

proximent row of finest spore on the bod wing. The black searching are less extensive flown in the societospyled firm and the sizer black degra, to the companies are reduced to agreed reader. The thomas and abdomes are white, this kend robust, the thomas being clothed with stiff white balas. The cloth-shaped terminations of the antennas are goalitably relayed.

Expanse / 80-100 mm.

Range: Coylon and Pentraular India.

Hobits: These large butterflies are fairly common and are among the most powerful

of all the Flexide found in India. They have a very setting, powerful and swift fight. They are sundering butterifies, and often rest on demp ground or settle on flowers. In fight, the wings see held half closed and motivaless when giftling down from a height. When they settli, they field the forewings back within the Iried wing in such a way that only the markings on the hald wings and on the tips of the forewings are seen, suching it way difficult to defect them when they settle on the ground. This is a remarkable instance of presenter decisions in a first of all over Perimanian first in whenever them is being maintain and the country is hilly and, seconds. In South India, it is found up to an altitude of 7000 less.

# Oemus Valeris Horsdeld. (Formerly Pareconia Singiann).

# This group includes the butterflies known popularly as the Wanderen. They are large butterflies. In the forewing, the costs is strongly seched and the apex is blass. The

some mergin is slightly should not the scream rounded. The little wing is subtifusing the with the cell is deposited out more with mat the length of the wing. The makes are pale blainh white, scentimes pale blainh green, with black bonders and with the wine advanced. The freshes beer a delatered trained pattern manifolding the filter Tiger, Denais houstone, very strongly. The food plants of the lorent sen Capien. Two spotes, Notice cognition (1964) and with the societies (Cromor) are represented

in the collection, such by a single subspecies.

Valeria ceyfanica (Feider).

### The Dark Wanderer

#### LES DUR WILLIAMS.

Description: G': The upperside is blaish grown with the veins strongly darkened.

The outer black border on both wings is bood and seldom spotted.

O: The upperside bears black marktons, and avail submaretral areas to be a

in arms 3 of the furnising being shifted inventile.

This species in unusally found only in thick jungles in South India, in places where the minful is beare, but in Carlon, it is common also in the drive reviews.

# Valeria orpianica ceptanica (Felderi.

The Dock Wanderer

Plete X, Sr. 8.

Specimens in the collection: Pwo, Madeau; 65 mes.

Description: This closely exsention the next subspecies, Valeria soleria Appia, but

differs from it in the following respects: G' = 0 The uppermide is of a desper blaich white colour. The outer black border on the foreviring is much breader and usually without submanificial agoin or at most only one or into of these entition of these entition are most offlers, and the most proof the submanificial agoing the submanificial a

#### The underside is as in bi

around in the undecreesth.

Q : This rescribles the female of hippin, but on the upperaids the outer black restricting on both the wings are natch broader. The subconginal spots are placed further every from the menion then in hippin.

On the underside, the black uneginal borders are broader and darker and the submarginal spots on the spax of the forewing and on the bind wing are absent or very bontly morked.

Entitions: 65.50 mm.

#### Rospe : Cevion and Peninsular India

Brists r This butterfly frequents thick jungle, usually at the fact of the Ohats and ascendis up to obout 2000 feet in South India. Its Hight it strong, but its usually keeps to the abade and to the undergrowth. The rate is very owift in its Hight and only occasionally settles on fiverus. The female is even much less often and is also in low flight, often remarking the Demands which the include, and is generality seen flattering.

# Valeria valeria (Crosser)

Description: This operies is divided into two groups, the Valeria and Hippia groups, distinguished from each other by the form of the grazial annature. Only the latter group is represented in the ladden area.

C : The upperside is blocks white, poler than in organism, with all the veins strongly blockmed. The forewing been submarginal apote on the broad, blackmed border. The underside is also whiler than in the preceding species.

 $\mathbb{Q}$  : Two forms of the female occur. The more common form resembles the female of onyknoice, but is whiter. The marginal markings on the hind wing are prominent

# Velezia veleria bippia (Pabricica).

### The Common Wanderer.

area being covered with androconic intenst at the torneal.

Pleas XI. Eq. 1.

Speciments in the collection: Twin, of these can in form Rangoon, Burman 14-5 mm.

Description: Q\* 1. The suppressible is pole blow with all the visits defined with block. The forecent pleas the coate, special solving maniph bloody broaded with black. A serious content of the coate, special solving maniph bloody broaded with black. A serious coate of the coate special solving maniph of the coate special solving the coate maniph is broadly block. The coate coate is a build better described. On the limit dwig the coate maniph is broadly block.

The underside is of a paler blue tist, with the outer margin bordered with dark brown and bearing a series of indistinct crescent shaped submarginal apole. In the hind wing wine 6.7 and 6 are brownly edged with black.

The head, thorax and abdonum are dark brown, the thorax being clothed with long bloth hairs. The underside of the abdone's and thorax is nate aftern blotch white.

3 : The upperable is black with black white markings. The forestog bears a series of post-cellular estipes of varying lengths. A submarginal series of spots are present, the onle name 3 being shifted invants.

presents, use use an area 3 being strated linewasts.

The undernide is a imitar to the uppernide, but duller, with the black margine broader, but less absorby defined.

The two specimens represented in the collection are makes.

There is a neither, exact cores form of the female, known as additionals (Pateriotas) in

which the base of the hind wing on the upperside is suffused with bright yellow. It minutes Dannie organisa.

Expense: 65-60 mm.

саралие: 03-80 псп

### Runge: India to Burma and Stars.

Makin: This butterfly keeps more to pen woodised than the proceeding subspecies and frequents ofter regions. In other respects in balliance merely to see strain to those of the proceeding subspecies. It hereps to low attributes and feeds on the same food plants. It is a sun-lowing species. The freades are more sleggles to their flight substants the Danishis way cloudy, and assertment, examply enough, it is gloss when the species.

# Subfacely COLIADINAE. The Yellows.

This subfamily includes butterflies in which the wing colouration is usually yellow or crange, in the increasing, who is always branches off from win 7 and veter 7 and 8 are continuous. The preconsal with in the hinds wing in greatly reduced or alwest. The food phints of the invessel of the precise belonging to this sublimity belongmostly to the normal

Four genera of this subfamily are represented to the collection.

## Genus Catopellia Hiltore.

This grean includes the butterfiles commonly known as the Entigment. They are large, while or yellow butterfiles, with block terminal and other markings on the wings. There is considerable seasonal variation in the wing colouration. The fenales are always more beavity marked than the makes. The Serving is elongate send the costs withy arched. The april is toron or less sends. The forems to looked such the trans margin long. The Mark wing is very broad with the second sudrengly seveled, the terms being singular and distinct. There is a size of the forest the part of species are created in the fore of species and distinct. The size is set on care that in the two of species are created in the fore of species are considered to the control of species and distinct the latest receipt in a long help provide, and on the supervision of the latest way there is no control particle of event section zone the forest forest species are forest to the forest control particle of event section zone the forest control particle of event section zero of the section zero of the long three particles are forest the section zero of the long three particles are forest the long three particles are forest the long three particles.

All the species of this germs are entremely common and compliants congrugate in large numbers. They are often seen on migratory lightle and settle bequently on flowers and to decay places. The larvae which feed on species of Consta often do great durange to the follows.

Catapellia crocale crocale Cramor.

### The Common Emigrant.

Plete XI. fig 2

Specimens to the collection - Twenty three, Your various localities such as Medinas. Nights and Cookin. There is considerable colour variation to this species: 64 mm. Description - 5 - The convenient is challen with with the received areas released.

yellow or ceitrely sufficed with yellow. The main is always sulphur-yellow basely and the female is usually so.

On the forestar the costs is necrosiv black to the base and the outer margin size.

bears a narrow block border which widens at the spex. The hind wing is as a rule unmarked but rarely it is marked with block dots on the margin.

The underside is yellow or yellowish white, without markings. The underside of the forewise is often white in the contentor part of the distal area.

9. The upperative votes in colours, being of once aloud of yoldwor or countries with. The fevering plant a liber it fleecorful any of which is multiple control to the costs by a laber kine. The coater marginal black koeder is writer at the appear and member the resurs. The source ending of this labels knowed in some or loss destant. The appear is optical with procless of the ground colour. An anterior post deteal labels hand in accurate process. The Early will please us note ranging labels before given or bed detained in its interior colour. An anterior post deteal labels hand in admittant post in time of the procless of the source process. The colour piece we have detained in the mark but the colourance wards and the source post of the colourance wards.

There are served forms of this race. The present spectraces belong to the commonent form, observed, in which "he proximal parts of the wingle are yellow and the dietal parts white, in the rade.

Expanse : 55 - 25 mm.

Range: This species has a very wide range of distribution, ranging over India, Balmas, Coylon and eastwards from Andaman Islands to South Chira. Java. Sumatra, Barmon and the Philitenian.

Habits: This is one of the commonest species found in and around Madina. Their flight is fast and powerful, They progress in a series of broad, curved, upward and

decision to bounding movements. They settle on fromes in large summer during the return of the rates. The realise frequently settle so during patients of earth in large numbers. They are found about the playing and on the filter go no an attitude of 6500 feet. They are most abundant during the letter part of the morenous and after the moranco, but in those such with lawsy marked they are found a first the moranco, but in those such with lawsy marked they are found abundant during the letter part of the moranco and after the moranco, but in those such with lawsy marked they are found about throughout the way.

Curtously enough, the Lemon Emignest, Ostopodia possous, which closely resembles the above species, and is also a very common apecies, is not represented in the

The larges of those species are able to exceen from their executes by years of a

protective device, they can jump to a height of eight inches and caude a greenich, mousesting that from their motion.

Cotcowills presentle symmetrie (Linnecus).

### The Mottled Emigrant.

### Photo XI, Og. 3.

Specimens in the collection: Twenty - from specimens, all from Madras; 50 mm. The annalest specimen is 40 mm., 10 mm. smaller than the minimum recorded expanse for this species.

Description: Q' : The upperside is challey white, theged with pale green in some

spectaness. The forestig bases a disconsibility black spet, which may be consistently absent. The costs is edged with black, An over merginal black before its present on the firesting, with at the spex and narrowing slightly beliefs and finally discopanting towards the terms the times edge of the black before in alghify instead, being produced on the witn. The blacky wing is with, with the marginal black brofer very moreous and confirmations are absent allegither.

produces on me went. The many wing is work, with the integrate cance covers very narrow and continuous or absent altigithm.

The underside is greenish motified with fine reticulating reddish howen or green lines and small disconsibilities agets,

Q 1. This resembles the male, but all the block markings are broader and the descoredibility ago on the foresting is targer. A more, black costal botter is present on the foresting, seat below the agent area there is usually an anterior, short, back, post-decad based which is consistent without and more or less conducting with the marginus bacter. The bind wing been a narrow marginal black based and at usually a few postilized seats are also measure.

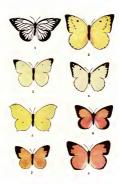
# PLATE XI

| rig. | 1. | Valeria ouieria hippia (Fabriciae) (x 1/4).       |  |
|------|----|---|--|
|      | 2. | Ostopolito croccie croccie Cramer (natural stre). |  |

- S. Citispollo pyrovibe pyrovibe Lismanus (natural riss).
   4. Catapollo forello grovno (Palerichus) (natural riss).
  - 5. Conspicyur rhamel repolerate (Litanorus) (natural site).
  - Euroma Arigitia Comercia I W.
     Euroma Adando efficiano (Walloce) (natural etcs).
     Euroma Accube eleminista (Micros) (x 1 W).







The underside is as in the male, but the discocellular spots are more sharply defined and oreflete in accommon with a red ring enclosing a silver grov spot. A post-discal series of reddish boown spots are present in both the wings. The thorax is severed powlerkely with long white heirs. The boad and thomas are brown and the abdomen white.

# Expanse: 50 - 70 mm.

blackish becam bowler.

accretimes bears arcall marrinal brown arots.

Ranger Cesion, India. Burmai and Andaman Manda, extending to Hairpen, Formosa, South China and eastwards to Java. Borney and the Phillippines. It is common to the Indian Region Nobits: This species is very closely allied to Ciflorella and indeed it is doubtful whether these two can be separated as distinct species. The markings in both species

show considerable variation and the characters contain to many anextmens to such an extent that it is often impossible to say to which species a specimen belongs. It is guite probable that C. forelis is a dry season form of C. nureathe supporte, on II has been observed that in the same region where C. Pyranthe parenthe abounds in the monecon, C. Surello appears after the mine, when the former begins to be source. In hebits, these t is similar to the preceding species, except that their flight is much weaker and more teregular and locky.

### Catopailla norella gnoma (Pabrichus). The African Embersot

Specimens in the collection: One, but its exact locality is not known; 60 mm Description: This is synonym of Colopsilis (Moore, by which name this was

known farmerly.

cf : The appearable is white, with reddish bown markings. Foresting with the conto and entral area marked residus brown. The terrotral marotro is also bendered with reddish brown, the inner edge of this border being produced a little inwards along the weige. A prominent black disconsibilar spot is present. There is correidenable wortation to the size and enters of these markings. The bind wine smalls been a marrical

vellowish pink line, but in the present spectroen the parries is edged with a very narrow The underside is very similar to that of C. Puranthe screenive, but the discocellular spots are more prominent.

O . The upperside is greenish vellow and the markings are more distinct than in the male. The discorribator spot is also larger and more prominent. The hind wing brown. The hind wing bears three discal apote of which the largest is the case at the end of the cell.

The name thisoretic is now applied to an extreme dry second form in which the underside is deep yellowish brown and the marginal markings on the upperside of the foresting are reduced or absent.

Expense : 50 - 70 mm.

Range  $\ell$  Ceylon, India, Burms and Anderson Islands. But it is rare on the Anderson Islands

Highest : The habits are very sizaint to those of the preceding species, but they begin to appear abundantly only other the roles. This is the lexima subspecies of the African Enginesis. Cotopolis, foreits which is much more widely distributed, its distribution reseture over Africa. Arabia. Provis. India. Ruzma. Carlon and Anderson latends. Index.

#### Genus Genepteryx Leach.

This genus includes the butterfiles commonly known as the Brimstones.

Description:  $c_i^{-1}(y)$ . The costs on the forewing is strongly arched near the apex, and more or less straight to eligibility decreased in the middle. The next is acute and foliated.

The outer margin is concernedy encounted below the apex and postariorly convoidy rounded. The cell is derigned; being more than hell the length of the wing.

The hind wing is bussely used with the outer margin precised into a prominent tools like contradesmon at which. The margin is also distult derizes at the terminature.

of vetes 2 and 4.

The serienness are sheet, with compressed, clab-like termination. The head bears a cointed test of eithers story bairs.

Spectes of this greats have a wide distribution, mostly cottable testion little, a registry over Barras, stora, Andanson, Fresta, etc. The cotty maleposies represented in the collection, namely, Georgeorge frames expolentis has a range extending from Chiral to Northern Burras and is said to be abundant at Manacore at certain seasons. This is the only common spectes of this genus occurring in India. No representative of this greats occurs in Strott India or Orches.

## Genepteryx rhamui nepalensis (Linnarus).

The common Brimstone.

Specimens in the collection: Three, their locality is not recorded ; 56 mm.

Description:  $\vec{G}$ : The upperside of the wings is coloured rich yellow. There are marginal redshib brown win dots on both the wings. There is a deep sampe disconsistant epot on both the wings, the epot on the hind wing being much large. The apex is strengly should to the irrewing. The samplest spot forms a more or less continuous line.

The undereide is pale yellowish green, the posterior discal and basal areas on the forcesing being usually sulphur yellow. The hind wing is toothed at win 3.

2: The upperside is pale creamy white, the reddish bown markings and the

disconsiliater upots being election to those in the male.

The underside is greenish while, the posterior two-thirds of the forwaing being

white. The discocalists spots see dulier than on the upperside

Both the series have the throny chithed heavily above with athery over hairs

Espanse : 60 - 70 mm.

Anaps: Chitris to Northern Burma. This subspectes is east to be abundant at Museocere east at Museocere such at Museocer

patches of grass and dump phore. They are conzent in the North west Hanakhyas above an estimate of NOOO feet from March to October. Their light in fishly strong and both some are known to houred downer. The remarkable seasand discorphism in this form is characteristic.

#### CHOM KANNIN NUMBER

### Synonym : Terles Swatment.

This prime technice dos bottomine popularly called the Grass Yulion. They are axial flagible trittellines, with the fewering of concessing is not as from in length. They are highly show with characteristic black terminal and spical markings. The forecomp has the costs are fasted and the space prompts given or less recorded. In the forecast part of the space is possible, the of the frame of the space is possible, the of the frame is comparable to the configuration of the forecast normals. The time margin is ecceptatively only length This half supple is foundly owner on gravitapois, with the costs actually and profit particularly is foundly owner operations, for the costs actually and profit particularly in founds are found and the space and content and profit current. The forecast is desirable appliant.

These butterfites flutter unsteadily among etems of gross and low bashes in grassy pieces and frequently rest on the stems of grass, or on fluters and damp patches of the seeth. They are most eather during the early locum of the morning and again in the weetin. The make any meaning, of the flutter in hare makes an everation of the makes any everations of the collection in hare makes any everation and the sales are everations. One collection in hare makes any everation and on the sales are everations.

The species of this genus are divided into several distinct groups based on their secondary second and other characters. Four of these species are common and familiar butterfiles frund all over India and Coylon.

BRIGHTA GROUP

### The uppermitte of both the wines is devoid of discoordinate ring-exets. The uppermitte

of the forewing with the black border not continued along win I. The underside of the forewing bears two, small, black discordinate spots. The upperside of both wings usually with broad, black apical and terminal borders.

Recemb brights Conner.

#### Place XI, fig 6.

This is a synonym for Teriaz illigithen Wetson, by which name this species had been seen familiarly known till recently.

tories a registricty becomes from coasts to the store awayts and slightly destribed on versil a to 3. The Service's to most simple and assured worked the spot than it other species of this genus. The bosal care is doubted with black in both the strage. In preserved speciesce, the black before climit foods but individual town. The lard way bears a black outer border which is bonder autorities). This black border is broader in the typical west assured forms than in the dysoned bream to belief it is related to severy among marginal barra. Two of the service speciesces represented in the collection to bre the typical west assured to the service speciesces represented in the collection to the collection of the collection of the collection of the collection of the collection to be the marginal barra. Two of the service speciesces represented in the collection to be

The underside is more or less of the same ground colour as the upperside. The underside of the femoting is marrowly bootlend with pair. Two minute black discontilate upons and a few checure black specia are pensor. If no underside of the find wing beans a board popt, there treas remely extended specia and a loop-like, theocetidate black appet, obscure, novellated black are present. Both winth beer minute, black marriant wint produces.

a count port, tress traversency contravou spots some nego-auto, unconsume count spots obscure, positiated busiles see general. Both whigh lose minimit, black manginal wind dots on the underside. The held, throat and abdicates new dusky black above, with a few yollow hairs on the thorast. The undersides of the threat and abdicates are pule yellowish.

#### 2 : This resembles the mole, but with the black mentional borders relatively broader.

There is not much variation between the seasonal forms, but as mentioned above, the dry season form, rabello (Wallace) is distinguished mainly by the much marrower

Exposur . 50 - 40 mm.

Renne - Coviers, India and Russia, extending on far as Mischer Jalanda and South

Making a Third is were common asserted of Group Vellow, fraced alread support companions on the plains as well as in the hills. They second up to an altitude of 12,000 feet in hilly localities. They are very attendant in the but weather in the nocky hads of the chore to Company. Their flight in woods, being more of an unrountedned fluttering: It keeps months to bushes close to the ground and sometimes they congregate as large numbers as low bushes and damp situations. They also frequently settle on flowers near the ground.

### RECARE ORDER

The males of this moun may be distinguished by the presence of a narrow, ever sex broad on either side of the median vota, on the underside of the forestrat. The outer sesson frems) and continued up to the tornus. Of the eight species of this group inhebiting the indian area, only two are represented in the collection, each by a single

Eurema blanda silbetana (Wellace).

The Throo-spot Great Yellow. Place XI, fig. 7.

Specimens in the collection: One, belonging to the dry season form, from Peninsular Iodia: 43 mm.

Description : This subspecies is subject to considerable variation and as the characters are not very constant. It is not conside to distinguish between the various forms easily. However, the present specimen seems refundle to the form saturability Moore. Most of these so called forms represent only sensonal varietions

Dry season form : of 9 . This is very similar to the succeding species, the Common Gross Yellow. The markings are variable. The unperside is righly citronyellow coloured. The foresting bears a block outer border which is broad in the apical area but narrowed behind and atronety community excessed below vota 4, recembling the condition in the next exerter. But the executive is commented broader in the present species. The bind wing bears a marrow married black line enlarged into conspire your date of the terrelegations of the seins. The meeting line may constitute be interrupted or thickened into a bend,

On the underside, the second referr is allebely ruler, and the markins are of a rusty brown colour, and very similar to those of the dry sesson form of the Common Group Yellow. The underside of the blad wine observe hears a retrude reddish beyon dot at the extreme based end of the cell in addition to the two small black apots (which are present in the Common Genes Yellow). The apical reddish bown patch is much larger and more diliver than in the Common Genes Yellow. The next bound in the male is narrower then in that species.

Wet sensors from 1 This is dealgranted on unphresion and is distinguished by the black border on the upperside of the investing being broader and the markings on the underside being none sharply defined.

Expanse : 40-50 mm.

Nauge - Ceylon, Pentanulus India to Siddin, Assara and Burnas, Fandanan Islands, Habitis - This is a contract analysecise of Green's Vision, India di Jove shittudes up to about 2000 feet. In some parts of Grouth India, this spettes is even more constant that a bout 2000 feet. In some parts of Grouth India, this spettes is even more constant that young about. The fined plant is Wapsies spetulas (finally Legunstanes), a large company young about. The fined plant is Wapsies spetulas (finally Legunstanes), a large company that classics over the Eulast times. This turning files (large up account that the tiges).

hobit befor correlated to the situation of its food pixel

### Eurems becabe (Linuxeus).

This is a widely distributed species occuring throughout the whole of the Ethiopian and intel-dustration lengthers, activating methods not bittern and shape. This is core of the most variable of the Indian species of Eurona and so the chemeters are not constant, many of these websitens cannot be separated as district reces.

The typical form of this species hours two cell spots on the undentitée of the focusing

and the presence of a sex broad on the underside of the foresting almost absorption distinguishes the male of this species.

On the several success of this apecies found in the land-Australian Region, only one. Darmon because airculate theoret, is currentested in the collection, this belief the necessaries.

Eurema becabe simulata (Moore).

#### The Common Grass Yellow.

Plain XI, fig. 8.

Specieses in the Collection in Nitetent Medines, Coderrary, Pulmys and Coopy 39 and The condition specimen in 30 mm. 4 mm. less than the distribution recorded expanses. Almost all the specimens in the collection belong to the wet meson form.

con. The establish spectrons is 30 min. 4 min. Set than the statement recorded expanses. Almost all the spectratums in the collection belong to the war season force.

Description 1 G - The uppercise is yellow, earlying its shade from a bright suiphur yellow to a rich lemon yellow. The forcesting beans a deep black outer border (which in recognized according factors for beauting broad. This habits before its continuous.)

renow hard along the costal anapin up to the base. The inner code of this bodier is deeply accusated between wint 2 and 4. Below with 2. the black are in a shrughly expanded into a quantile patch occupying the entire torned angle. The lated wing base an outer person which bodier which is wrankle to within, and the trare rolle of which is subset the defined in most spectaces. The trare margin of the lated wing bear a broad, conspicuous area which is part of the third wing bear a broad, conspicuous area which is part of the third wing bear a broad,

On the understake, the ground is usually paker than that of the uppersisks. The spots and madeing now not a middle how no color. The flowing has been award black upon in the based half of the cell and a been-shoped discoccibile apoil or ring. A prominent between such-pictic pathe electrical down from the creat. A next mental parsent on hot sides of the models were the cells as described in particular par

Q : On the upperside the black marginal borders are slightly broader, the inner edge of this band on the hind wing being diffuse. The underside is as in the make he the day season form, demonstrated authorists (fluider), the black borders on the

uppensite of the wings are much narrower. Expanse : 40 - 50 mm.

Sange : Cepton, Peninevilar India and Central Provinces.

Fishiis : Specimens of this race see very common in and account Madrus. In fact, this

is the commonent subspectes of the genes met with in Southern India and Cryben. Its larnes find on a variety of foot plants. Counts. Accols and Countyletia being the most wood among them. This betterfoly is found all over Pentacular India up to an stiffend of 5000 feet and in plentiful throughout the year.

# Gerras Collas Fabricins. This comes includes the butterfilm normalists known as the Charlest Yellows.

Although this gentae includes about fourteen operior, most of them occur in memoir measurations tracts and only tou species may be said to be common. They are correct or yellow butterflies with black outer bonders which are usually aported with sandings of the ground colour. These upols may accretions be about. These butterflies are labellitates of open country on the lift iddin and see first them. They are commonly

strategies of open country on the rail sects and see not mers. They are commonly found settling on Sewers.

Description:  $\langle f \rangle$ : The costs on the forewing is arched at the base, but is then continued straight up to the apex which is obtain. The outer margin is alightly convex.

The terms is obtainedy angulated. The inner margin is straight. The hind wing is kroadly owal; the cell on the hind wing is elongate, being more than half the length of the

wing. The head is covered with a tuft of long bates in front. The club at the end of the extreme to credually enlarged.

Two subspecies of Coline ergic liberardy known as Coline hands) are represented in the collection. One spectrum in the collection labelled Collar phicomene (54 mm.) appears to be an exotic form. (Plate XII, fig. 11. Colles erate erate (Exper).

The Pulc Charled Yellow

Plate XII, for 2.

Spectmens in the collection: Three, two of which are females and one mair: 45 mm. Their exact incality is not recorded. Description : (f : The upperside is leason vellow; the base of both the wines and

the restorier half of the hirel winst are dualed with block analise. The ferming hears a small, owni, discocribular black spot. The spot and outer margin bear a broad, black border, necrowing behind towards the terms. Submergical spots of the ground colour are usually present on this black apical area, but may be sometimes absent. The hind wing beens a fairly large bright orange pallow discoredialer spot which is rendered double by a slight constriction in the middle. The outer margin of the hind wing bears a narrow block border which is often broken up into marrinal spots on the terminations. of the vetre

The undersale is lemon veloci. The forestor bears, in addition to the discocefular apot, a post discel row of black spots, which become reddish anteriorly. The hind wing bears a double allowy disconsitutor and, each consciented with an inner and outer red rather foint red socts are present. Buth when bear a marrinal salmon ptrik line.

2 : In this the dround colour is paler vallew or white but the markings are more or less similar to those of the reals. Expense / 45-55 mm.

Range - Bakuchistan, Hissaloyes, from Chitral to Kumaon.

Mobits: This is an extremely variable subspectos, and several local forms have been recognized. In the Himsleyns, the white female is the commonest form. This butterfor from some over country between 5000 and 11,000 feet on the Minuteness. Its 61sht is that. It penerally flies close to the ground and frequently settles on flowers growing close cereal crops, on which the larvae feed. In the Histologue, it is found from Maych to July and agein after the rains.

The three specimens in the collection referred to this subspecies were originally bibelled Collectingsis, but this to a distinct species not represented in India.

Collecting souts adjusticionals C. & R. Politer.

### The Pale Clouded Yellow.

# Plate XII, Sg. 3.

Specimens in the collection: Eight, Pulneys and Niigiria, South India. In some of those the wings see in a bad state of preservation: 60.5 mm. The smallest specimen

Description of : The upperside is of an deeper and brighter colour than in the process.

Description of : The upperside is of a deeper and brighter colour than in the processing more which is the nonatrophysical form of this species. The outer back are not formered in the breacher and the substantial process are unabler. The based back dust that

to present on the forewing and a dual crouge apoi on the hind wing.

The underside is also of a deeper yellow ground colour and the easter hand wing and
the apical and contail across of the forewing see densely deated, with block. Take given the

underside a greenish tinge.

2 The upperside is white, densely duared with black scaling over the entire hind wing and over the based area of the forewing. The outer black border on both wings is

broader than in the preceding typical race. The forestry brace two conspicuous while automorphic spots.

The underside of the foresting is while, the apex being greenish yallow. A block

discorelisiar apet is present. The underside of the hind wing is greenish yullow, with a abovey coella-like discorelisiar apet berdered by an examp ring. Expanse: 45 - 50 mm, As a rule, these are smaller than those of the noninotypical

Range: Peninsular halls, hills of Southern India.

Mabita: These are much the same as those of the nominotypical race. The larvae of this South Indian race have been observed to feed on the legislations plant. Parachetas

# Family DARAIDAE. This family includes large bufferfies, with a tough, leathery body and ample wings.

The cells of both the fore and hard wings are closed. With I in the forewing is forbed close to the base. In both the sexes, the frost lays are reduced and non-discriptional. They are usually keep present against the understand of the theore. The body is reflect stender, although tough and the antennae are stender and fallocus with two proves on the understand. The open are noded, not budy:

These are extremely tough and heady insects and are perhaps the most effectively verdented among all the butterfixtee. They possess on uncleasure arried and their taste is nauseating to other creatures. This, coupled with their remarkable toughness and towards to life has enabled there to be most excessful among butterflies in their attracting the extremes. They also receive the recent of absorption death. Special which are not distreteful have also acquired insuranity are not their enemies by miniciding the Deposits Many appelies of Sandjournal's and Plantids are committee of such missions. They are slow to their filebt. Secondary exceed characters in the form of specialized patches of accept acceles and before are present in most species. In the makes. The largest are also protected by their unpleasant odour and tasts but they full an easy arey to ichosumon

This family is mainly tropical and subtropical in its range, and includes three copers. House, the tree property. Densite the Taires, and Expises the Crows, distinguished no follows:

Persons - The setrons are of constructively large expanse: the automore are flighten, and the colour of the wings in both sesses is complemously black and white,

Densits: These are brightly coloured, brick-red, blue-striped or black insects. Explores: These are glossy black, with white spots; some of these butterflies are beautifully tineed with closey blue-black. The entennes are distinctly classes.

All the three repers are recorded from South India and are well represented in the Manager collection Genry Heatta Hilbert

### The Tree Namedon. Three are large butterfiles with a very wide expense of wines and long and elemen-

bodies. The forestag is clougate and narrow or cometimes comparethely short and bened. The costs is wolely areland. The bird wind is eigenstate and broadly soute, with the termen more or less strongly arched. The cell to more than half the length of the wing in both fire and bind wise. The antenne are long and filthers.

This group is district into two groups, the Lances group and the Labor group. Of these, the former alone is represented in the indian Region. A single species, Sessia Assessed in represented to the Manager collection by its storie subspectes. Heath Assessed

These are large butterfiles with semi-tomsparant, greyish white wings, bearing large, black spote. The male and female are similarly coloured. The Covion and Western Indian races are similar. The race recovered in the Moseum collection is the Western

Economic 110 - 1160 mm

- PLATE XII
- Fig. 1. Colins phieomene (Eartic form) (motural size).

  2. Colins erate erate (Eaper) (natural size).
  - Colina erate nilegirienate C. & R. Felder (natural star)
     Hestia ignorus malabaricus (Hoore je W).
    - 5. Denate plestppus (Lineacus) (x 1/2).
    - 6. Donois chrystopus (Umnarus) (x 1/2).
  - Danais ilmniase matina Probetorier (x <sup>1</sup>/<sub>4</sub>).
     Danais mellima discribance Probetorier ix <sup>1</sup>/<sub>1</sub>).
    - Denaits mellima dravidanus Fruhstoefer (x\*/,



### Hertia lynceus malabaricus Moore.

## The Tree Nymph.

### Place XII. fig. 4.

Specimens in the collection: Two, one from Mainter, and the other from Coorg: 130 mm.

Description: if  $\hat{Q}$ : The upperside is semitranaparent and greyish with scenetimes

sufficient of this during of Black scale. The step here is a following pattern of Black scales are mortificing. The value is an energy integrated with fock. In the Energy Lap was beautifully partial bring on the Black stream in any England. A source black a place in face of consisting from more or has partially beaut integrated in the Black stream is any England. A source black a place in face in Black paper in II. The experiment is a supplication of the Black stream is any England in the Black stream in a supplication of the Black stream is a supplication o

The underside is similar to the upporside in its markings.

The antennes are black, and the head and thorax streaked and spotted with black. The abdoman is while, with a broad, dull black bond above. Expense: 120 - 154 mm.

Runger Western Ghots, Travencore.

Hishita: This is the alowest of all indian Butterfiles. It scarcely moves its wings while in flight and appears to wark effortlessly in the sid. It is found in proups of three or four frequi gifts in thirdly evocider cores. In the Western Globes It is confined to the thirtle. Only in the confidence of the ground. It is even of the integer of indian is desiretime and is easy to congulate for the characteristic sopietical selection justice of the contribution of the confidence of the confidence

### Genus Danals Letrelle.

This genus includes the butterflies popularly known as the Tigers. These are large, black, dark brown or towny butterflies with transparent mericings and sometimes with while-spetial black apper on the foresting.

white spectral black apar on the ferroding.

The ferroding is triangular, with widely arthed costs and boundly rounded apar. The tremes is either stright or slightly concerv below the apar. The limit wing is cover or pumblepoid. The cell is long, more than balf this length of the wing in both the wings. The naterimes are either hort. I win in set than half the length of the covering. The claim

This grows may be broatly divided into two groups according to the nature of the undersor of the general colourations of this weige, in the first group, the Glossy Thers. the wings are black or druk thrown, with pole, transparent acrosses, dead suggests and indirectly and the pole of the securitariaries are small. The secretaria control across a small, the which includes the Towny Tigers. the formedap see though with the lack appear which includes the Towny Tigers. the formedap see though with a black appear approximation of the control of the through the secretaria through the properties with without. The makes been appeared on the high of which going and the properties with without the makes the appeared on the high of which the properties with without the makes the appeared on the high of which the high properties with without the second of the properties with without the makes the appeared on the high of the properties with the properties with the properties with the properties without the properties without the properties are also appeared to the properties without the properties without the properties with the properties without the properties with the properties are the properties with the properties

Six species, most of which are common in South India, are represented in the collection. Of these Danais pleatypus and D chrystypus belong to the group of Taway Tigers, and the rest to that of the Glossy Tigers.

This genus has a wide range of distribution, extending over the Himslayus. Nepal, Assem, Burma. Nicohore, Sam, China and the Malayan Sub-region.

Dennis plentipues (Linzacus).

### The Common Tiger.

### Plant XII, Sg. 5. Specimens in the collection: The Madran, Pulsers, Mesons, Orderary and Wymad:

mm.

Description:  $r^{2} \circ :$  The uncertaint of both the winus is formy, with all the wines

broadly backward in the flowing, the contained downs insegts and the special half of the weig are black and the interpresses between the water behalf the spicial sales are sway. The wins hear broad-lakek booten. The tentinal margin is black, with own the spicial sales are supported by the spicial sales and the spicial sales are supported behalf and the spicial sales are spicial to the spicial sales are spicial broadly bootened with black. The tentinal sangui is black, with two more or less complex seater of other operation. But sole lower provides the other broadly spicial spicial sales are spicial spicial

The underside is more or less stratic to the upperside,but the ground colour of the hind wing is pair; and the apex of the forewing is dealey brown instead of being block. The arricanses are black and earliers abort and sierder. The bead and there are block, spoiled with white. The abdresses is theory brown, apolited with white below.

Exception 25 - 100 rgm.

Ronger India, Ceyton and Buccos, and extending to the Maley Pentasula.

Habita: This is a brightly coloured butterfly, frequenting lighthity wooded country and scrob jumple. It is epocially plentiful in seres having heavy mindel. Its flight is work, as in other epochs of the genes. It is less common that the next species, the Pain Tiger. It seem characteristic with other species of Darnelle of information.

### Danais chrysippes (Linnacus).

The Plain Tiger.

Flace XII. flg. 6

Specimens in the collection: More than a dozum most of those from Medice: 78 mm. Description:  $\mathcal{O}^{\mathsf{T}}$   $\mathcal{Q}$ : Uppendix: The foreving is towny red, paler over the docean

one and derinating towards the costal images. The costs and ages are black. The pixel dark area is crossed by a white follows burshift not insper and two subtressinal witce spots below its lower and. Two or three small white spots are possent at the apixel margin. A senter of terminal width appoint of working star are possent. The termine of the forewing is more concess than in the preceding species.

The libed witch is paired with the tensors bearing a nearwor black beader which is

one-test by a series of white spots, this series being thoroughes over. A fairly large history spot is present more the base of very D. that this is absent in two of the spectamen consistend in the collection. In addition to this, there are three much results black bytes on the bender of the cell. In both wings, the wines are not blackboard as in the preceding species.

The underwise is equilably coloured, but poler. The lain's wings on a triangular ores

at the apex are echimorous brown on the undereide. The white markings are also more sharply defined on the underside.

The animanes are black and the head and thorax are black, spotiod with white. The

abdomen is brownish above and whilish besenth.

Separate: 70 - 500 mm.

Range: Throughout India, Surms and Ceylon.

Hobbit: This is one of the consument and next familiar of Indian Interdise. It may be seen fright a fill beaut of the dainy adjective and grows to design disperses and providing downson, because a second point of the above the ground. In the eventage thoy are frequently seen flattering about among pass and the behavior before their days for being the beginning to the inquired point for the second of stablety leavier on which they may be their constituted and the second of the fill was 1000 for the time second to be made of the global second of the second o

### Danale limniere mutina Pruhetorier. The Blue Glassy Tater.

#### Plate XII, fig. 7.

Spectreres in the collection Nine, Pulneys Myscor, Kurnool, Godernay and Madraes to new. The smallest openiness measures 60 mm., 10 mm, emailer than the minimum recorded experience.

Description: of \$\times\$ The uncorrected in black, with large, transfer white or black.

white, send-transparent markings. A slender streak is present extending from the base

in the cell and of the spot of the cell there is a large white spot indented on the cuitable. A large oval spot is present at the base of area 2 and another standar spot at the base of area 3. A securable threefals are set of authernatical and terminal spots are present, the latter being the smaller. A few very narrow and shorter, oblique, white, sub-apical tracks are now.

In the form stee, the cell is almost entirely where with a median narrow black streak which is formed at the sent. The width of this narrow streak varies is different specimens. Express the cell, there is a sincher Unkaped white loop at the base of sense 2 and 3. Areas in a smill there shows the cell of the streaks extending from the base. At the base of streak of the sense is a sinch white sould be streaked with a sinch cell of the sense in the sense in the sense is a since equalities white social and below it another bread determine white

streek. Beyond these, there are a number of scattered trengular white terminal and substranked apole.

On the underside, the apex of the focusing and hind wing are obte brown, while the maintain haad continued the forester is dearly block. The scott and markings are very

strature to those on the upperside. In the male, the underside of the hird wing bears a pendulous pouch. The head and thorax are black, spotted and streaked with withe. The abdoment is dually brown above and othercome below. The arinnars are black

### Equase : 90 - 100

Range: Throughout India, Burma and Ceylon and extending even to the Nicobara.

Habits: It is a large and one of the commonent species of butterflies inhabiting both
the hills and the colors in India. Its fight is stronger than is most other species of

be found everywhere in the open plains and even ascende hills up to considerable elititudes. The food plants are species of Calatropis (Medighadecese).

The secondary acclarates in this species is a pentulous pouch in the mais, lined with specialized series are less that there is no the start the brings.

# Danais meliasa dravidarum Pruinterfer. The Dark Blue Theer.

#### Plate XII. fbc. 8.

Specimens is the collection Eight, Madran, Kurzcol, Myscon, Wynand, Niigita and Pulmyn: 52 mm.

Description - The species was Summerely known by the name D. Serpentrious Butter.

more builds. In the decerting, the two streets in news I we marrows, the upper of these being quite specifies and feeting and so expended in the consistent of the contract of the contract who state of the contract which so that the contract we marrow within shows surface at the base, and below that there are two more next two marrow within shows that the contract which seeks of the contract of t

The underside is on the whole much derive than in the preceding species. The underside of the hind wing bears a pendulous pouch in the male as in D. Steature. The bread and thence are block, dotted with while and the abdomen is blockinh brown, and while beneath.

Expanse : 80 - 115 mm.

Nange: Southern Indian and Cryber: Histologue, from Kuta to Burma and Assaus, extending to the Makeyan sub-region.

Habits: This is a very common species of betterfly found throughout the hilly and wooded regions of Southern India, according up to 5000 feet. It occurs in hinge seasons in the ratury season of low elevations. He dight is rather about. This species may be readily destinguished from D. Reveloce by its darker colour, during light.

Danais agles agles Cramer. The Glassy Tirer.

as Gaussy reger.

Plate XIII. Oc. 1.

Specimens in the collection: Pire, Polissyn, Coorg and Niightic (85 5 mm.)

Description  $r \in \mathbb{C} \setminus \mathbb{R}$  is upperaids in deep blackish brown, with the transparent blacks such since surface in an expectation to the ground colour than in the penceting species in the forwing, in area 1, there are two long, broad streaks unified at the base and truncated at the outer end. The cell bears a break somewhat closed-stepped, blacks while streak threshed lengthere by two the black lines. Such

clougate, based spots are present in areas 2 and 3. Beyond these, there is a discul series of three apole and two elegante scales in the scales area. A subtrantant series of spots and a terretral series of reach equiller anoth to noire are present.

#### in the hind wine, areas I a and I b bear broad, loor streaks from the base. The cell and area I bear two streaks in each, united at the base. The pair in the cell are also

united outwardly, enclosing an element etreak of the ground colour, the upper one in broad, somewhat quadrate spots pointed inwardly are present beyond these long double streaks, and a series of subtreminal and smaller terrainal ands are also respect. The spots in the subterminal series are more numerous and closer set than in the forestrat.

The undersale is similar, but the markings are on the whole more til defined.

The contenues are black, and the bond and thorax are also black, spotted with white-The abdomen is blackish brown above and dall brownish below.

### The male bears secondary sex characters in the form of patches of scent scales.

The present enhancedes, D. auten artes is the couttern form which is the typical form of the appoint and in which the breditte blatch white markings are comparatively less extensive than in the Northern and Eastern form, melancides,

Expense: 70 - 85 mm, normally, but from up to 100 mm, have been recorded. The increal election to the collection measures (6 mm.

Renor: Covice, Pentrauler India, especially Assemble Hills, Mesore and the Decrease up to poome

Mabile : This practice is consume to South helia to the hills respectably to certical with hausy minfall. In South India, it is only found up to 4000 feet in the hills, while in Certon it seconds much higher. The porthern form inhabits the Himelesson review from Danais effetriends Mycre.

### Knahmar to Nepal. Its food plent in Tylophore carnoss.

The Nilstri Tierr. Plate XIII. fig. 2.

Specimens in the collection: Four, Pulneys and Nilgiris; 84 mm.

Description ( of 9). The uncertaints during brownish block with drew block white markings and spots. The markings are much less enteraire than in any of the preceding species, the strucks befor narrower and the spots amaller, with the result that the ground colour is comparatively more predominating in the foresting, there are two corrow strenks to eres 1, toined at the bose and usually also at their apiess. A names,

## PLATE XIII

- Fig. 1. Danais agles agles Cramer (x <sup>1</sup>/<sub>4</sub>).

  2. Danais affairtenais Moore (x <sup>1</sup>/<sub>4</sub>).
  - Euplore core care Casser (x \*/\_).
     Euplore corete corete Godert (x \*/\_).
  - Explore diselettons Februicus, race remespt Moore ix <sup>3</sup>/<sub>e</sub>).
- Explose kolleri Felder (x \*/\_).
   Explose malether Cramer (x \*/\_).



alonder streak with two fishtly marked streaks above it are present in the cell. There we five discui spots, and above them is a long streak in area 5 followed by a much shorter one in area 6. A few fishtened couls appear and a subtential and a terratual earlier apate are also present, the terminal section being tocomplete and countering of very small

double. The cell bears a much broader streak, blandly pointed at its outer end. Beyond these, there is a discol series of cloragele white spois followed by a subterminal series of a few whichy spaced spois and a very incomplete series of infants terminal dots.

The underside is more brownish with the spots more sharply marked. The antennae are black, the head and thorax black, spotted with white as in the preceding species and the abdusen brownish slews and full white below.

#### Expense : 80 - 90 mm.

Sunge : The Klights, and the bills of Malabar and Travencore in Southern india (Western Ghats).

Mahita r. This species hishabits low hills in South India, according to about 4500 feet. Its flight is slow and usually not for above the ground. They are frequently found varieties flower in opening and investors flower in opening and in the foundation of the process. South of the process for the process. This is characteristicable a hill species. South

# practically throughout the year. General England Exteriors

## The Cross-

This game includes large but inferiors with plany brown or given black step, the controling is more or the integrable and constraint in a factor operation. The black step is broad, control and constraints a steached but bringland. Both weights are offers a softward within a broad control and control and the step in the t

. Fire species are represented in the Museum collection. Of these Explore core core, the Common Crow is the commonent species.

## The Common Indian Crow

Spectrems in the collection of About thirty-firs, from worken isotalists such as Montes, Karmon, Christman and Juderys. The specied Replotes one in presentable by their mons, core, correlatedate and about. Of them, core is to be pipeled South hadden note, the clarifornithm of which excellents all our brain. It is to this me their the spectrems in the Moneton collection belong. The none exercisable is recorded from North Institut, and the acute is altered excellently controlled to Sport, 70 man. The smallest spectrem in the collection measures 70 man. I farm, smaller than the nationaus recorded spectra Description, of 50 °The freezent is force, arbitrationals varieties the size of t

In more or has broadly outs, with the turnen evenly curved. The utpressible alongs, Metable borne beceasing pool review adapt the transition language. Both fore and halve being been a sorter of temperature and produced to the produced because the second of the second to the second

The underside is more or less similar to the uppermise, but the ground colour is more underso. Small costal and discal with upon are unarrhy resent on the underside of both the fire was discal wings. The bead former send abbones are blackbib bown above, paker beneath. The head is marked with fire white spois above. The sestences are dark brown, with a marked like learned of bits.

Expane: 85 - 95 mm.

Range : Common all over India.

Habila: This is the consument species of Rajdoon and occurs receptions in initial on the plains and on the hills up to attained on board 2000 feet. The flight is week, and it offers works along in the work, Paring heigh shoot excursed shrubes. It has been known to they ago, on several species of Soci plains southly the consumo Olemeker and species of Fress. They semestimes settly to large southers to be consumo Olemeker and species of Fress. They semestimes settly to large southers to compare with species of Chanadian.

### Explore cereta coreta Codesti The Double-brand Black Cross. Plete XIII, fig. 6.

Specimens in the collection : Three; one of these is from Coorg; the locality of the other two specimens has not been recorded; 55 mm. Description : of 2 : This species closely resembles the preceding one in its shape.

colour and colour markings, but the males can be distinguished by the presence of two brands which are parellel and longer, instead of the single one on the forwing. Females may be distinguished from those of E. one by the marris of the forestor befor entire and in the underside of the forewing bearing a complete series of six spots while in E. core two of the upper apota are always absent. Further, there is a faint indication of the double brand mark on the females in the female also. The head those and abdomes are blackish brown, paler beneath. The upperside of the bend beam five data. The and corresponding the state of the state of

The care masking Polder, is confined to Crylin. All the three environment in the collection belong to the typical South Indian race, corest Godart. Emesse: 85 - 55 mm.

Renne / Southern India, Munora, Wynaed, Nileiria and Transpoore Western Chata. Mabits: The behild are expoler to those of the preceding species with which it may be often found in association. However, it is less common than the remoding aperies on the

open plains, being more confined to the hilly regions and the surrounding plains. In the west. If is confired to the Malabar Coast, but if is much less common there. If is extremely common at the foot of the Niigtris and accesses the hills to an aitHode of about 7000 feet. Specimens are more alentiful during the mirry season, but unlike the preceding species, this does not migrate within indian limits.

### The Marole Crow. Plate XIII , flg. 5.

Specimens in the collection / One; its exact locality has not been recorded: \$2 mass this is 14 mass, amplier than the minimum recorded exemptee.

Description : of § : In the foresting, the dorsum and termen are very convex and the costs is strongly arched. The upperside is black, with a bright bluish stops all owe. The base is brown a very large transition white patch fills the every of the cell. Release this, there are three transversely elegante white spots and an oblique interrupted bar. The execute is about with blue. A large, subterminal blue and is present to over 2 and stable smaller spots are present above this is an incomplete tentated series. Sometimes these bias spots are white-centred and this is the condition observed in the present specitions. The sex textual is pain this and cost. The upperside of the latest wing bears bond within textuals and an incomplete tentation and substratinals series of white-centred those spots. The mangin is black, shot with blue. The cell is brown and the contain tengin groy.

The underside is helr brown, with the markings similar to those on the upperside, but largue and better defined. On the underside of the land wing, one or two additional spots or streaks are present on the discal secon and in the odd.

Q : The forewing is narrower than in the make, and the does un is stream. The opposite is pale unable brown, with the opical half of the forewing cometines glossed with blee. The northings are singled to those of the male, but they are within and larger. On the sized wing, there are three additional white attends in the cell and a few wither mosts consider the cell.

The underside is studies, but the markings are broader. The antennae are black and the head, thorax and abbisms are black black in the state, and dark brown in the foods. The abbisms is transacrated striped with with brings.

The stagle spectrum in little collection belongs to the race navasage Moore, which is distinguished from the hybical farm by its larger site and by the greater width of the white concluding expectably in the focusit. The formies have niesphale place of the appeal half of the forewing. This is the only race of this species that is recorded within ladien limits.

### Expanse : 96 - 102 mm

Range: Eastern Himsloves, Nepal and Sticking

Hisbits : This is a common species inhabiting focusted country and hifly regions in North nestern india between 1000 and 6000 feet. It is most abundant during this recessors. In flight, it is well comountaged set builds makings harmonies well with the light and shade acrong the jungle fellings, it is semantable for its large, magnle - life-markets by which the ancient may be easily recordingly.

Euploen Rollard Felder. The Blue Crow. Fints XIII. Dr. 6.

Spectroux in the collection. There are two spectrours in the Measuran collection, included E. Naglis included Telektry of which case is from a Cong thorts included has since been separated into a distinct aspectes, they are troubed under this specific heading in the present occurring 50 cms. The spectes & Hogel the very workship and is condition to Bengid, sheems. Occlus, Derman and Makay Pentansian. Description:  $O' \Sigma$ . The typerestic is very dark smody borns, becoming gradually pairs and sighter borns transita the margin. In both ways, there is a source is less complete series of terminal and substraintal series of within spite, this fringer below larger man in the kind whig those are skingwalp out in much larger than the terratural space, in the arresting terminal space is exclusive to restrain the space and the substraints appear discusses in the stream of the statements appear document in that terminal they are obtained as a substraint of the statement of the statemen

in the collection, being males, bear this prominent white area in the bind wing.

The underside is paker brown,with the markings more or less similar to those on the upper side. On the underside of the forewise filter use two to door softlinent discal spots. The arritmens are blockish brown and the beind, thorses and abdocutes are dark

The operanens in the collection belong to the typical form, but the race atchain Moore, is confined to Caylon.

Expense: 100 - 104 mm.

Runne: Penjamier India, South of Bombay, along the Coasts, Eastward, it has

ean recorded from Bengal and Oriens.

Habits : Not much has been recorded about the habits of this species. It is a much

less warshie species than E. Singli which it closely rearmbles. However, it appears to be a rether unconstruct aspects. A first sight it appears to be a larger stifting of Explores escrete correla curets. It is mostly confirmd to the constal areas in the regions from which it has been recorded.

Explores mainlife (Connec).

# The Striped Blue Crow.

Plate XIII, fig. 7.
Specimens in the collection: Out; its easet breakly is not recorded; 90 sup-

Description: \$\mathcal{G}\$: The upperside of the forwing is dark brown, beautifully gloosed with pole, highligh which spots and the treatmin, surgical and eliberal areas. There is compet user the end of the cell. The hind wing is owner, uniformly dark brown and unaported, encopi for a large, reducing patch of light brown scales over the upper third of the wing.

Q : This is lighter brown, with the bloe-grossed area in the foresting smaller and confined to the discol area. The apois see larger and pure withs, but disposed more or less on in the forewing of the mole. In addition, there are a street in the cold and in the next beyond, and a terminal row of white spots. The undestable is but the saak and the femile is situately to the uppersible in the convenient gas and the famile in the convenienting see, but the markings are

broader and more sharply defined. The antennae, head, thorax and abdomen are dark brown the head and thorax being spotted with white and the abdomen transversely banded with white beneath.

#### Empror : 90 - 100 mm.

Ronge r The Himalayse, from Strake to Stiftin and Kula to Assaus Nepal, Oscher.

And extending to Durma, Sians and Makey Pertansula. Also from Madena to Dengal.

Hishits: This is one of the most widely distributed seedies of this ensure in the Inclina.

area. Although it is common only in Bengul and Assem, its distribution extends down the Bastern Claim up to Malaras, where, however, it is very rars. It prefers were wellow in the hilly regions and its Assem and Dengal it is downt both in the Mile and the polent. This is the only indian species of Gaptien in which the male and female are markedly different from each other.

Note: There are a number of American and Durmone specimens in the collection, belonging to the family Durmidder, but there are not included in the present account, the scope of which is limited mainly to forms met with in the holian Region, perticularly South incide.

### Family SATYRIDAE

This faculty includes the accrewitat dislicolessed, incompensuum, brown or blackish brown furterfiles popularly known as the Browns or Salaysile. In the deller solvens of classification they were included in the authority Solventee uniform the faculty Nyruphalaine, but they are now separated into a distinct faculty, the Salaysides in

The Swipsis are a group of somberly coloured turtierthes with abort, broad wings, marked above and below with could or specifies aper. Sometimes the wings bear transverse within or browshile basis. Some aperies have the undecade of the wings beautifully consciented with colour patterns. The ferelegs are reduced and non-functional.

The fixtyrine are short-long testirelies frequenting bushes, givenes and dense designation to the evergence ingest. They evidence one on this copin places. A few designation on this copin places. A few fight is weak tool they fire in the first of the f

### Genus Mycalesia Höbner.

This gergas brekefee dull - coloured coolearte steed butterfless popularly known so the Bushkrowns. They are usually dock brown, with a completuous cedls or eye - bise apot on the upper side of the foresting. On the under side there is usually a pale submarginal band across both the wings and coeff are found on the margin outside this bend. In day sewoon forms, the coeff are reduced to the dots.

In the ferewing the costs is more or less arched and the spex rounded or mitter acuts. The derivan is straight in the makes. The hind wing in wests and the costs and the termen on the hind wing are more or less arched. The cell is short and about held the length of the wing is both the wings. The makes have a sex beaution the upper sale of the hind wing and a corresponding one on the underside of the Server.

Most of the species of this genus inhabit hilly regions but they are found only at low attenders. The habits are more or less the same as those described for the family Satyridae.

Nine species of Mycolenis are represented in the Museum collection, most of them being exclusively South Indian species. Further intensive collection of this group is needed to fill up the gaps in the acries as a few South Indian species are still not represented in the reflection.

Based mobily on the nature of the branch in the male, the species of the groun are species of the ground two flows prough as "Wylter." It was all the species in the collection, enough two, (Myspeles) position before and Hyspeles and male, with no that it be brand on the upper Services, and writer 3 and 4 to the hard wing configurate from the same round not read to the same and writer 3 and 4 to the hard wing configurate from the same round nor rather from a notice and read and the same and the read of the upper same of the hard wing configurate from the same round nor rather from the same and the

Group I.

Mynalesia anaxias Hewitzen
The White - Bar Bush Research

Plate XIV, fig. 1.

under side of the forestor to the male

Specimens in the collection : One, Coop; 50 mm.

Description  $\circ$  of  $\mathbb{Q}$ : The upperside is deal borson. The upperside of the foresting bears an oblique white bor across the spical sees. Octil are absent. In the scale, the upperside of the bind wing bown a black see board with a pale yieldow bril. The underside of the foresting bears a small black bearst. The beard and tell on the upperside of the foresting bears as small black bearst.

The underside, in both some, bears a white - centred dulyous - singled black coefficients in interspect 2 and two peoples a mailor coeff.

1. Where, 1994: September 2 and two peoples are single people.

In the dry second form, the coeff on the underside are more translatent and the Empres : 45 - 55 mm

Stone / Hills of South India: Nickts, Travencore, Coore, Silden to Assert and

Mubits: This is essentially a hill species confined to the everyour forests. It keeps moetly to thick shade being seldon found in open country. In the Nikitis, it is found up to an attenue of 5000 feet. Group II

## Mycalesis persons typhlus Frubstorfer.

The Common Bushbroom Plate XIV. firs. 2 & 3.

Specimens in the collection: Fire, one of which is from Coors; the locality of the remodelest apprehenses in yest recorded: 41.5 mm.

Description : of 9 : The appointed to brown. The forcetag beam a white-centred and falsers strend black cooling in tricourage 2 and pressionally a strator but smaller one in interspect 5. The hind wine is uniformly brown, sometimes bearing two or those observe well. Take subtractival and terralical lives are remort on both the stress. On the underside the ground colour and pale lines are straller, but the wings are crossed by a common named to white names discut line. The undenside of the ferminal hears has to four occils, and the bird wing seven occils of which the last three are in a straight line and the cest are atronety curved outsoards.

of 1 The brand on the upperside of the blad wins and the under side of the In the dry season form, the transverse discal band on the undenote are obscure and

the ocell. If present, are reduced to missute dots.

Expanse / 35 - 55 mm

Rense: The appelles, Macalcula persona, on a whole, has a wide cours of distribution. extending over Cestus. South India to Bernell, Historium, Status, Shatan, Assert and Burma, but the race typhas which alone is represented in the present collection, in confined to South India.

Habits : This is one of the commenced species of Bushboowns inhabiting the watter. well - wooded parts of the country wherever it has been recorded. It secrets the bills you

### DI ATP VIV

|     |    | PLATE AIV                                     |
|-----|----|---|
| Dr. | 1. | Manageria conceptos Hespitano (natural ales). |

- Mycolenis typhius Probetoche (doesal view, (surusu) sine).
   Mycolenis typhius Probetoche (ventral view, natural site).
  - Myoslesis mineus polytieria Cramer (natural state).
    - Mysalesis visais visais Moore (natural size).
    - 6. Mycalente mabdita Moore (donad view, natural size).
  - Mycalesis subdita Moore (weaten) view, matural start.
     Mycalesis ithusia octora Evens (doesn) view, natural start.
    - Mycalesis Rhasia ochra Evans (westral view, natural site).



to an attitude of 4000 to 5000 fact in South India and Caylon; the makes have been observed to frequent dump, smally patches.

### The Dark Bend Bushbown.

### Plate XIV. fig. 4

Specimens in the collection: Three, of which one is from South cochin and another from Court, the locality of the third specimen is not recorded. The specimen from Coorg is incomplete. 45.5 mm.

Description  $r = f \cdot S$ . This appoies closely resembles the preceding one, but may be readily distinguished from it by the posterior fee and not three, coeffi on the under side of the hind wing being in a simple line.

The uppensite of the Sureving boses a single, white-centred, finite-ten-risped blacks conclude broaded in a more or less pain area which is broadered on the tendes and outside by a morrow clock like. The corclass is generally enclosed by a dark pellow ring which images also the pain area.

On the underside, the record colour is stealine, and both where are traversed by a

dualty while cheed based. The could on the underside of the hard wing differ from those of the preceding species as stated above. Support the rows of ceed on twist the wings there are pulp peopleth with terminal and subtraction lines. In the mole, the sex brand on the uppensite of the hard wing is solution pink and that on the underside of the forewise around and harms.

In the dry servers form, the could are reduced to minute dots and the pale area surrounding the could up the preparate of the formulas in way enterwhen

Taja species is subject to considerable variation.

Expense : 40 - 50 mm.

Range: The species Mycolesis reineur as a whole, mages to its distribution over Coylon, Penhaular India, south of Sontony, Meditys Pradesh, Bengisl, the Himalayas from Kula to Stakins and enetwards to Assam and Burnes. The race polyelests which

from Kubs to Sikkim and eastwards to Assatts and Burma. The race pelsylector which alone is represented in the collection, in the Southern firm, confined to South India. Minbits "This species is common, found wouldy at low severations in this hills and on the olders." Occasionally it accessed the fulls up to an altitude of 5000 feet.

### The Long Strand Bushboown, Plate XIV.ftg. 5.

Specimens in the collection: Two, Coorg 50 mm.

Description: of 9 : This specime closely reasoning M. Assess in collect, marketing.

and general appearance, but then the whole somewhat larger. The foresting is, as a rule, some pointed and mosts at open and the tremm and are evanted, but attem a traight. This distinction is more sparked in the day assemp form. In the wat season form, the spex and the internal rate both at little more rounded. The coulks on the upperation of the Sorvering is large and promisent, while-continued and with a but forefer ring. In the make, the nex based on the understand roll with a but forefer ring. In the make, the nex based on the understand or the foreferral is very large and produced.

This species is subject to considerable variation.

Expanse : 40 - 50 mm

Ronge - The species M. visuks Moore, has a wide distribution, ranging over Sükim, Blattat, Packmarki, Bengal, Strain Hills, and environments to Assert. Negs Hills and Durma, and South india. The race visuks, which sixes is represented in the collection, is the South Indian form.

Makits: This species is very variable. It is very common in certain parts of its range aspecially in the Soldim sees and account Calcutts. In the Naga Mills, it is recorded between Sithvides of 2000 and 5000 feet. The new twish is certained to South India.

> Mycalesis subdits Moon. The Tamii Bushbrown. Plate XIV, See. 6 & 7.

Specimens in the collection - Three, Madow: 45.5 mm

Description:  $g' \in \mathbb{N}$ . This species is very similar in colour, markings and general appearance to M. estroux. In both its set and day season forms. The appearable of the single beer a jet is subsurption if the with two black itsoes between it and the margin. The occluse on the uppendix of the forward plans within, do: This contributed as well defined without his property on the Property of t

The male may be distinguished by the sex beand on the underside of the forewise, being much longer and broader than in M. misens, but not extending beyond the discoil band tenerating the wings. The brand on the upperside of the hind wing is pair yellow.

Emanue / 43 - 50 mm

Range : Coylon, South India, Nlightis, Travencore, Medicas to Oriesa and Bazquicos.

assembled to an altitude of about 3000 feet to the bills. These butterfles are readily attracted by sugar. Hypothesis bhasis sycha flores

# The Pale - Brand Bushbrown,

Plate XIV.figs. 8 & Se. Specimens in the collection: Two, one from South coord and the other from the

Pulners: 45 mm. Description : of Q : This species is very similar to the preceding species in colour

and general appearance. The apex of the forestror is pointed. On the unperside of the wings, the margin is white, followed closely by a black line and a pale submarginal band which is rather obscure especially in the foresting. The sale discal hand is possible of by a pain brownish ring.

On the undenside, the discal band is white and broad, usually slightly bent inside occition to area 2 on the forewing.

In the male, the sex board on the underside of the forewing is larger than in the preceding species reaching up to the discal band. The bread on the upperside of the hind wing is pole yellow.

in the wet season form, the wings are much pake in colour.

Emosse: 42 - 55 mm.

Range : South India, Pulsere, Shorrove, Nighrie, Wenned, Cooog, Assers and

Habits : This Species is not recorded in Siturbanc's volume on Suttenties in the Fourte of British India series may be detroin in his back on Berterffee of botto. It is a common anecies inhabition the luneles in the Nigiria and porthwards. It is similar in its

Mysalesis adolphel (Guerici)

The Red - eye Bushbrown. Plate XV for 1

Specimens in the collection: One. Western Chats: 52 mm.

Description: of Q : The appearable is chocolate brown. The forewing beam a large white-centred black creates about the middle with a follows or reddish brown ring and a much smaller black, white - centred pre - aptent aport above the large occilianIn the hind wing, there are two to four white - centred, black could with reddish brown rings. These are smaller than the large, posterior coulds in the forewing, the anteriormost being the emulicat.

On the undenside, the ground colour is similar, but marked with obscure transverse strine of durker brown. The terroinal marcins of both the wines are only and aspected from the darker central area by a well defined very dark brown line: there are two coeffi on the forester and error on theflind wing arranged in a curve.

In the male, there is no sex brand on the underside of the forewing, but that on the represented of the handwing in black.

Empres : 53 - 55 mm

Range : South India, Niigiria, Coorg, Anamaiai Hilla, Western Ghata.

Mathin: This is a fairly common assertes of Brightenius Inhabition the hills between skittudes of 4000 and 7000 feet. It is most commonly seen during and after the monsoon up to the month of December. It frequents the edges of MI streams.

Mycalesis contus Marstall.

Plate XV Sec. 2 A 3.

Specimens in the sollection: Two, one of which is from the Pulsers: the locality of the other specimen is not recorded; 55 mm.

Description ( ) of 9 : This practice resembles the preceding species in the expensicolour of the wings, but attains a slightly larger size, and may et once be distinguished from all other exects of Mucolesis enumerated above, by the presence (on the uncertifie of the foresting) of a very large, prominent, white - centred black occilies placed on a broad, deep valigate), orange area which is broader anterforty and is produced upwords. towards the costs. The small pre - apical coultse is small, inconspicuous and somewhat consided by the willowish orange area of the biseer occitue. On the upperside of the bond wins there are two to four, rather obscure black, white - centred ocelli encircled by a light brown ring. In the present specimers there are three such ocelli on the bind wing.

of which the middle one is reletively the largest. The margin of the hind wing is eligibly the winte absorbly defined by a volicedab band, the center edge of which is rather diffuse. The profit on the underside are represented by larger than but otherwise similar

produced into a slight protection about the middle.

to those to the preceding species In the main, the any irrend is small, block and incommissions on the underside of the forewing and furnished with a small brown buft on the upperside of the hind wing.

## PLATE XV

- Fig. 1. Myesfests onlyfylet Oracits (natural size).
- 2. Myrofesis coulus Marshall (domni view, natural size).
   3. Myrofesis coulus Marshall (ventral view, natural size).
  - Myrolesis potala juscala Butter (natural stre).
  - 5. Lette europa ragsina Prubatorfer Moreal view, x  $^{2}/_{\varphi}\lambda$
  - Lethe europa regulace Protesturier (wentral view, x\*/<sub>a</sub>).
     Lethe drazetts todare Moore (dorsel view, natural size).
  - 8. Lethe drypetis todars Moore (ventral view, matural size).



#### Expense: 54 - 60 mm

Rampe - South India: Nights and in the hills southwards; Cochin. Travances and

Matrix: This is one of the most prottily organized apecies of Mangicels and to common in the hills to the South of the Nilgiris at fairly high elevations. They are constraily found in well-wooded areas in the hills above an altitude of 2000 feet.

### Mynalesia natnia Moore.

The Glad Eve Buebbrown. Description: of 9: This species is readily distinguished from all other species of Manufacts recorded a bose by the large son . He conflict to some 2 on the congress of the

forewing. This black, white - centred occlius is placed on the lower and outer edge of a circular while or willow area. The wirels are coveredy recorded in cuttles. The underside to deep velicately brown and varietated. Both wings on the underside are toward year the base by a valuation line, beyond which is a afterny dural hand Outside this there are two ocell in the forwing encircled by a alvery ring, and on the hind wine there is a curved series of seven orelit hordered on both eites by a eiterey

They report of this assertes married restate and turnous are recorded. Of those restate is confined to Certion and Juneriu to South India. The latter alone is represented in the collection by a single exercises. It is distinguished from parties by the patch exercise the forewing occilias being white instead of scillow (se in points).

#### Mysalasie patnie junouis Ruther.

The South Indian Glad Eye Bushbrown.

Spectmens to the collection / One. Pulcence 46 mm. Description: Of P : This race shows the typical characters of the species as

cuttined above, exceed that the unpenable to of a dutter brown colour, and albitate Louisi with yellow. The patch encircling the median occlus on the foresting is pure soldie. A amaler sub - actual coeffice is also present. A vellow discoil main, is absent or represented by faint traces. The hind wing is uniform, with two smell, yellow-ringed black ocells.

The underside is altogether doller than in the Ceylon race; it is brownish willow with five black terretrial lives as on the upper side. The median occities on the forestor is The make bears a large bright yellow spot on the hind wing onar the formun. The sex brand on the upper side of the hind wing to block with pule brown toft. The brand is absent on the undenside of the foresting.

The female is more yellow on the upperside and without occili on the hind wing. The underside is so in the mail, but brighter yellow and the basal area of both the fire and hind wings is travered by two darker yellow bards.

Expanse: 44 - 52 mm.

Range: Hills of Southern India: Niigiria, Mysore and North Canara.

Habits: This is a common fouth Indian species, frequenting well - wooded country and shady stream. They occur stream by in some and areast tracked in faller fruit source.

and today. They are found in the Night's up to an altitude of 6000 feet in evergreen forests. They are also partial to bemboo vegetation.

Gamus Lethe Hibbarr.

This large genus comprises numerous species, popularly known as the Treebrowns.
They are usually dull become on the uncertaile, often with a white basel on the forester.

in the formion. The understde of the hind stop is always conducted and other richly variegated. The foresting is triangular, generally about and pointed and the hind wing orate and office considers. The towards in the forwing is studgitt and concover whereas in the hind using it is strongly arched, analoged and often consists or denists at the tenzination of wint.

Openies of this gazus tababit mostly busiboo jurgies as the food plants of almost all the species consist of busiboos. They are notice specify in the nonzings and evenings and rest during the greater part of the day. Their Sight is week, and although repold. It is unstandy, the insects frequently setting in some sheltered upon among the undergrowth during their Sight.

This group includes a large number of species most of which are confined to the Handways. Assum, Stikkin, Shuhan and Burnas. Only three species are recorded from South india, and one sociatively from Copies. Of the three species known from South India, and one sociatively from Copies. Of the three species known from South India, salthough more concordy seen in North India. All these three nucleates are represented in the Manama collection.

Lethe europa ragulva Fraduterier.

The Bamboo Treetcown.

Specimens in the collection: Four, of which one is from Coorg and another from Malabar; 66.5 mm. The Locality of the other two specimens is not recorded.

purple line

Description: of The approach is dark brown. On the founting, there as two investigations that could followed by the indictive white people, the appear can of these bring double. The white descel have of the unriented have through conspicuously. The internal amongst and beat the window possible have. The understale have specificated amongst and beat the window possible white hims. On the understale the understale have the proposition of the propos

Q : This is similar to the male, but the upperside of the forward beam a broad, white, oblique discuit bend and the hind wing beam an incomplete post-discul series of black appia. The underside is similar to that of the male, except that the markings are larger.

# Expanse : 65 - 75 mm. Proper: This species II e. Leibersynon Exteriosalis reserves in North India but rather

race in South indic. In North India is eductivation ranging over the visible of North Indias is plated. Mostly Protects, beared in the Plannings, Assess and Durma and estending as for an Making Pentineuka and Citims. The present race registes Productive is the South Indian race. The margin of the India wing is distinctly certainful and the termen is produced into a short. Heart, said the projection postero-intensity of the Section Protection of the Section Protection of the Adal Section Protection of the Section Protection Protecti

in the foothills of the Husslayan expectally in Jeasure and N.E. Indix. In fourth Indix it is comowhet nees, being most usually seen during the monocom in the Nilgiris. He flight is shough being usually secured humboo clumps, but it is occasionally found flying high among the tree tops.

### Lethe drypetis tedam Moore.

The Texall Tree brown

Specimens in the collection: Three, Courg. Policeys and Nights 56.5 mm. This is about 9 mm, less than the minimum recorded expanse for this species.

Discription of the processing of the processing

INB. VIL NO I

9 This is similar to the above, but paler, with a broad, oblique white discal but and two white pre-appeal apote on the upperside of the forestor. The markings on the underside are relatively more abandy defined than to the mule. Emurse : 65 - 70 mm

Rampe (Southern India The greenstrace, todays, of which specimens are represented in the Museum collection, is the besided South Institute race, confined to South Institu the distribution of the species as a whole is known to range over South India and Ceylon.

Hobits: This species is very common in the low wooded regions of the Western Obas and the Nilstria. Its larvae feed mostly on bumboos, but they also seem to feed on grasses at altitudes above 2000 feet in the Western Chair. Its babils are more or less the same so those of the preceding species. The ent is laid singly on the underside of a leaf. The buryon hairth out and are usually found on leaves close to the ground to abady attractions

The invoice are mostly found on the thorny species of the hambon, Sumbana arandisaceae.

The Common Treebrown Description: of : This species is very similar to the preceding one. On the conversible of the formations contained from our action white appearance occurrent. In the bird

wing the occili of the underside show through, often forming semewhat feint, diffuse, black another two flow subtermitted black lines are also present on the uppersists of the

in the form of a V are present. On the undecade of the hind wing there is a basel whilish ine beyond which there is a series of six double-ringed black coeff arranged in the form of a curve and becored on both aides by like, white itnes. Two fire trensitual lines are also

9 : The uppermide beam a broad white discal band on the forester and a white root

The antennae and the bead, thorax and abdomen are horses.

Renne: The distribution of this specks extends over Kashmir to Kumson, Sückim.

which only the southern race, niightensis Guerin (mhabiting Crylen and South India) is represented to the extention.

it is found in the plains.

### Piece XVI, flg.1.

Spectroms is the collection: Eight; of these, two are from Pointeys, two from Coopy and the rest are from localities not apositionly eccorded. There spectroms are in a had plain of preservation; 50 from.

Description: d. | This beam the same contribute two are transferred to the unpermise.

of the forewings as in the other two mess, but in this mes, they are larger and there is an additional within spot placed in area 2 near the tenner.

Q : This differs from the make of the typical form in having the discal white beard on the unprecedent of the forewise disciple into these distinct with access the relation of

three spots being in sees 3. This band is narrower on the undersate of the wing. On second of this difference in disposition of spots the makes in this race may be easily distinguished from the females.

Expanse : 56 - 70 mm., but the seuthern more, nightheads swerages around the second of th

ex-oo mm.

Rosge : Ceylon, Central and Southern India, northwards up to South Bilar,
hibbalarer and Kooken.

Minday The larvae of this species feed on grosses. These betterfiles triabilit lightly weeded or open country and are much less strictly confined to it the jurge than the close species of this prome. Their light is week. This is normally a hill appears, but in Malabar,

### Oemus **Ypthima** Habner.

This genus includes small, becomish butterfiles popularly known as the Rings, on account of the prominent ringed occilus on their forwrings.

 $\vec{G} \stackrel{Q}{\sim} 1$  The forewise is triengular, with a widely scaled costs, straight termen and recursion terms. A precentant, double-pupilizated ordina with a policy ring, is present on the forewing below the ajons, and one or more senaler coeff, on the upperads of the tand-ordin. The undescribe of the first wing also been complexeous coeff on the outer half of the discollares.

The hind wing is owite, with the costs and terrors arched, but the decision is weaght. The underside of both the wings are paier bown and decorated with fine strictions and fiftrity marked benefit. Male secondary ext mark is usually present in the form of a large patch of specialised scales on the appendix of the foresting. Most species have a dry assess form in which the coefficient extraction to men species.

This ground conceptions is high number of species many of which are confined to the Hinalityna. Assum and Burnas, but stone species are fourth industrial many occur more or loss all over tables where these is plenty of grans. Most of them tolked in open court more but occur prefer well woulded areas and shody pieces. They have a pirty flight and forwards within on the remain for on bushes with their form out the cloud.

Eight species, most of them purely South Indian in distribution, are represented in the collection, but many of the spectaces are unfortunately in a nather poor state of preservation owing to the obligate nature of their wings.

# Ypthina arterope makestha Moore. The Common Threering.

Plate XVI. Rd. 2.

Spectroens in the collection r One, with the wings on the left side to a m ther mutilated condition; its locality is not recorded; 32 mm.

Description: Q'Q': The upperator is dult become with a whitteh fitting. The freewing beens a winter-centred black sub-special occiliar rigged with polisorials brown. A pair occiliar zero is present in most especianene. The hind wing is uniform with a single small sub-tornal occiliar.

The windceside is grey tols white with very line transverse strictions. On the underside of the foreward is dreed into a windcesside dark books are present, ascetting below the coollaw for lows a loop. On the underside of the hard wing them are three straid cooling pre-pixel, a sub-formed and a tested. The authorizate, head, thereo, and subdements are dull leaves.

In the dry season form, the ground colour is paler and the coeffi on the underside are reduced to minute species or absent altogether.

of South Jedin

Espanse: 30 - 37 mm.

Raper: N.W. Hitzalowe. Behathiston. Burma and all over India. This is a widely

distributed species extending eastwents as for as China.

Jishbis: This is common epoces found abundantly all over indic stell seasons in the open pittes and also in focusted country. It is essentially a piates apocies, enter a secondinate to any soverciable builde in the hills either in the Hillsalvane or in the helia.

### PLATE XVI

Fig. 1. Lethe robits adjutensis Greets (x \*/\_).

\* 2. Yathima autorape mahratia Moore (natural size).

Ypihima asterape makratia Moore (natura)
 Ypthima gpihimides Moore (natural size).

Ypithima chessal Guerin - Menestile (natural stre).
 Ypithima ceptonics Heretiscs (x 1 %).

6. Ypthirus hubueri hubueri Kirby is i 14.
7. Ypthirus sounis etnysis Felder (natural else).

Yphtma phlianeta tabella Marahall & De Nicerille (natural size)
 Yphtma baldas madrasa Evana (natural size).
 Specie saliis Hymiteca (x \*/\_i).



### Tpthims ypthimeides Moore.

#### Place XVI, dg. 3.

....

Spectmens in the collection : Two, Pulsey Hills, South India. Of these only one is complete, the left hind wing having been lost in the other specimen; 62.5 mm.

Description :  $d^{2}Q^{2}$ : This species closely resembles the preceding case, but may be distinguished from it by the upperside being deriver. The underside is brown to beweeth white, without the sheet these versus a time. The terminal under soft inside delicentical lines were absent.

The female is pairr than the mole and has the undecede of the hind wing coased by a narrow, prey-white bend. The yellow ring cound the doble-pupillated coeffus is clearer in the female than in the male.

The automase, head, thorax and abdomen are brown

Espanse: 40 - 45 rum.

Range : Hills of South India, south of the Nigiria. Common in the hills in the extreme south of India in Trivances and Cockin.

Habits: The species resembles the proceeding species in its habits. It is confined to the higher elevations in the hills of the extrema south of the Peninsuls. It generally despents hill sugges above an attitude of 3000 feet and is common at all seasons of the war.

Tpthims cherul Guerin - Meneville.

#### Nitries Fournitus

### Plate XVI, fig. 4.

Specimens in the collection : Two, Pulmeys, South India; 36.5 mm. The larger cimen is 2 mm, larger than the meadmann recorded expense (i.e. 46 mm.).

spectmen is 2 mm. larger than the maximum recorded expanse (i.e. 48 mm.).

Description:  $\mathcal{O}(2)$ : The upperside is pale brown or warslyke brown with a large, pre-apical, double-pupilisted likely occline custoried by a yellow first. A falsal subformation

transverse band is present. The upperside of the hand wing brown two most, jethowtenged unjumplished octors. The underside is given between transaction with their constraints of the freeding brown a stugic production of the freeding brown and the students of the freeding brown a stugic post-top carell decili meraged in a curve. The entermose, bond, thorax and addresses are that graphs haves.

In the day season flow, the cost in on the underside one enterlier.

### Personne 26 - 46 mm

Bosse - South India, Mistria, Polyege and Cores hills.

Habits: This species is common in South Indian hills, being most usually found in

the Nilstrie and in the hills of Coorg, generally between elevations of 6000 to 6000 feet. In Travarpooe, it has been seen at low elevations. Tpthims certonics Hentmon.

### The White Fourther

Plate XVI. for 5. Speciments in the collection: Two: their locality is not recorded: 32 mm.

Description : of 9 : On the uppersole, the Scowing is brown, varying in shode

from a light brown to deep sepia brown. The forestor is uniform, with a large, wileyrised double-conflicted black coults. On the amounts of the formation the material half is pure white, while the america half is of the same bown colour as the forewing. In the posterior white area, near the margin, are arranged two or three small coeffi posteriorly. Subterminal and terminal simpler black lines are present beyond the series of credit. The underside is white, with five brown transposes atrias which are more numerous on the foresting and get denser towards its open. The occilies is somewhat rankabused, before broadly produced downwoods, and enviroled by a broad, velicutab bown ring. The underside of the hind wing bears four small ocell arranged in a curve. the auteriormost befor experated by a wide you from the remaining three. The autermanhand though and abdaman are boyen

### Erronne : 20 - 25 mm.

Rance / Parts of South Bental Orione, South India, the Niletinia, Travencore and

Highlig . This species was cristically known from Crylen only, but later it has been met with in Bengal, Orison and parts of South India also. It is found algost throughout the year up to an elevation of 2000 feet to the bills and in the plane, to thickly worded country where it may be generally seen hovering about among bushes close to the ground. It is locally abundant in certain parts of the hills, while it is used toolly unknown.

### Yothine hubrari hubrari Kirley The Common Fourting.

Diete XXI de 6

regimens in the collection : Four: of there two are from the Niletrie, one is from Corbin and one from Princetown. The swedness from Princetown and one of the aptrimens from the Miciria are badly murtilated, some of the wines having been fost; 31 Description / of 9 : The upperate is sale busin, the forestrict beam the second large, hi-pupillated, police-ringed black coeffice. The hind wing bears two or three small

black coalli pour the marrin poeteriorly. The undecable is greaten white ornamented with rather widely among transpares hower streets. The productide of the forested bases the large, single pre-appeal ocellus as on the upperside and the underside of the bird wine are traversed by dark brown transverse basels. The above description applies to the wet season form, to which the specimens in the collection belong.

in the dry season from, the wings are paler both on the upper and undersides, and the ocell on the underside of the hind wing are reduced or absent.

The antennae, book thomas and abdomus are enough house. Expanse / 30 : 40 mm.

Russe: The distribution of the species ranges over the Himslavan, peninsular India.

A CHITY.

Assume and Surrow. Several programble of races are propried. The profibers race confusion Mawtings is distributed over South India and Centure the race habsent Kirby to which the respect approximate have been societard, appears to be approximate with application. The pace keathering occurs in the North West Himslams and Kashmir.

Habits: This is a very common species of Fpthirms found in fairly large numbers both in the open hills and in focusted country. In the hills of Southern India, especially in the Miletria and in Transporter, this species occurs community at all this is a \$4000 to \$000 fee almost throughout the year, but as mentioned above, the wet senson forms differ from the dry assess forms in being naler boson.

# Yothima avanta singula Feider.

The Jewel Foundati Plate XXX for 7

Specimens to the collection / One, Pulmers. The specimen to incomplete, with the left

Description : of 9 - The universide to durk house, with faint subtermined durk bords. The foresting beam a yellow-ringed double-spotted black or ellus tust below the social area; in the scale, this may be faint or absent. The bind wine bears two small black

The underside is brownish white with choract fine dark brown strict. The underside of the fore wing been a single occilus and the hind wing six occili arranged in

#### The male may be with or without a sex brand.

The present race, singula Felder, is distinguished from the typical form by the upper and being all this property with a provided times. On the undensite, the ground release is whiter than in the typical form-

### . Exposer / 30 - 45 mm.

Rospe - Centon: Protosular India un to Mallow Poulests Himalows from Kashedr to Assam. This is the range of the species as a whole. The present race, singula Felder. is confined to South India and Crylon

Mabits: The habits generally reversible those of the proceeding species. It receptle the hills units 4500 feet to the N.W. Harndown shorter appears and to hather elevations in the Bastern Himaloyas. In the South, the South Indian race Singula is confined to the hills of Crylon and South India.

## Ypthima philomela tabella Maraball and de Niceville. Mate XVI. for &

### The Baby Pivering.

Specimens in the collection / One: its exact locality has not been recorded; 34 mm. Description : of 9 : The upperside is brown, with the terrolinal margine of the stom darker. The forestor beam a larm, oval, abriefly oblique, bi-purellated, veloceringed black ocedius. The other ocedi are disposed as in Y. boldus, but the minute tornal ccellus on the bind wtor is a beent. The underside is similar to the underside in Y holds: but darker, being othercooss

with commented with close-set transverse brown strike. On the underside of the forestrig the vellow ring round the occitor in broader and encircled by another frintly marked boson rips. The underside of the bind some bears are small, blind overlier manned in pairs as in the next species, Y. baldus, Subterminal obscure brown bends are present on the undestrict of both the wtors. The autennae, head, thouse and abdomen are brown. refer on the undersate. Thus exectes is on the whole smaller to size than the next one

The dry season form is paler and the scelli on the underside of the hind wind are reduced to minute data.

Expense : 32 - 35 mm. Wenter Shith quotes the expense on 28 - 25 mm., but the appelition to the collection recourses reach 20 years, agrees and to nearly as large as those

Roome & South India, Nilstria and Woman't North Surme.

Mabits: This species is mitter restricted in its distribution being confined, in South India, to the jumple insci north of the Nigrie, between Nigrie and Wymad. It is locally common and may be often seen on the greacy slopes of the hills at elevations of about 3500 feet.

## Tpthims below madraes Evens. The Common Phonton

Plate XVI, fig. 9.

Specimens in the collection: Plots of these one is those Coop and one those Pulmeyer the locality of the remarkating three specimens is not recorded; 35 mm.

Description: cf.: The unprecision is brown, with the terminal manufar much durier.

on both the fire and lized wines, The forewise being a desident unagain construction to the control of the cont

atrice. The forewing has the lerge occities so on the upperside, but the land wing bears agreemalier occili insurged in three pains. There are also distinct subtermined discal and sub-bond transverse brown bands on both the wings on the underside. There is a prominent sex broad.

Q. This is distinguished from the male in barring the area nurrounding the cooling on he appearable in both the free and basis stage being poles. On the underside also the ground colour is poker than in the male and the transverse brown bands are more alwayly defined.

In the dry source form, which is poler, the occili on the underside of the 1/md wing are reduced and appear as dols. The present spectronis, however, all belong to the typical management of the control of the control

The antennes, bond, thoma and abdomen are dull brown.

In one of the spectmens in the collection, the ocall of the underside of the hind wang are arranged in two groups, an autoist group of two of which can is instants and consignous with the main one, and a posserine group of three in which the middle conis larger and the other two are minute. The disposition is rather peculiar and is worth recording. Probably the succession is intermediate the between the war undersomes form.

Exposes: 32 - 46 mm.

Range: The Hamileyns, from Chembs, through Stikins and Bitutan to Assem,

Reneal and Russes. Also Central, Western and Southern India.

Makita: This is a very comman and which distributed species of batterity found all over high free the Handapoins is bothern hills. It is extracted common to South India, both given the sit executes of the year both is the pinter and is the India up to an attribute or both TOO for the Handapoin both peep country and well wounded regions, and various trainmentals estages between the west and day season forms have been collected.

## This genue includes the butterfiles known popularly as the Catoryes.

of Q: The wings are very stde and the costs in the forewing is widely arched. The spec of the forewing is broadly rounded, its tenses being rounded and the dersum straight.

The cell is broad, about half the length of the wing.

The though the wing is broadly pear-shaped, with the tensor sensewhat scallopped, being distinctly analysis of the tensor of the length of the

will over half the length of the wing.

The entenane are elender, nother short, with the club gradually enlarged.

Only a single species is recorded from South India and this is represented in the collection. The other species are known only from Assum and Burna.

### Zipoetie saltis Hewiteon. The Taxali Catacys.

Plain XVI, Eg. 10.

Spectroom is the collection: Three: of these one is from Oochis and another from Travanceen. The locality of the third spectroom is not recorded; 56 mm. The smallest spectroon which measures 50 mm. is 4 mm. smallest then the solutionars recorded enteriors.

Description:  $\vec{O}$  § : The uppenside is valvely block, in fresh specimens, but in the present specimens it is finded to; a duil jurgishe brown. The forwating bears a broad, oblique pure which beard from the raidle of the costs in oneity the anargin on the termen in serse i. The block wing bears a smaller bread white beard extending almost parallel is the positivity preferred to the trimmals arrays. The value ranging of this basis of a concerning the contractive of the trimmals arrays. The value ranging of this basis of a concerning the contractive of the trimmals arrays. The value ranging of this basis of a concerning the contractive of the trimmals arrays.

The underside is sizely, but paler. The white bushs are as on the upperside. These is a substrained savey like on both the few and history dange on the underside. The underside of the theresting is without neeth, but the underside of the hard sing bears ow of the large and possistent code, laveleded within the range of the white bush. The coeff like the brown, white control or a control by blacklich brown. The pre-apteal occlus is the largest and double-pupillation.

The head, thorax and abdones are dark brown and the enterone reddish brown.

Empress 60 - 65 mm.

Rospe: Western azzi Southern India: Nilgiria, Ameniakia, Cochin azzi Travencore

Hubbis: This butterfly frequents densely wooded tracts in the hills of the Nilgiris and Wastern Ghata between 1000 and 2000 feet. Its flight is weak and seldom does it come and but a throughout the formity consistent, but in purely open an account of its habit of taking abelier in the thick vegetation of the hill slopes.

### Geneu Ometriarna Wallendren

This serves to chales only a stock further species, comprising the butterfiles possiblely known as the Nicpecs. of C). The formation is broadly interesting with a broadly arched costs and more or less

obtusely rounded spex. The termon and donours are reachy streight. The hind wing in broadbroads with the costs and terrors slightly arched and the decrees almost straight. The abdomen is thin and elegen

Servetor and two such tuffs on the hind wind covering an area of specialised scales. Only one species is recorded to India and this in represented in the collection.

## Oreotrioena medus mandata Moore, The Nicore

## Ploto XVII. Sc. 1.

Spectmens to the collection: One, Pulmers: 45 mm.

Description: of Q: The upperside of both the wings is uniformly dark brown, but there are two very narrow pole lines inguediately within the termen in the hind wing. The

The underside is dark house, with toroities and authorizated elemen white lines on both the wings and a pure white narrow discal band stretching across both the feet and hted whore. Retween this band and the terminal manuto them are two scall on the Securing and these on the hind stag, the apical occlius on the hind stag being much amplier than the others. The occili are entircled by a velow ring and outside this by a became rices and finally outermost by a regulab rised which is common to the ten arrival ocall in the hind wing. The present specimen belongs to the set season form in which the markings and resilt on the underside are distinct.

unmarked.

This species resembles a Niposisols in naturnal appearance but may be distinguished

foors it by the unmerked upper surface and the arrangement of the could on the underside. In the present rece, manufate Moore, the discal band on the underside is broader and proportionately more narrowed towards the apex than in the typical form

Expenses 45 - 55 mm.

Range: The distribution of the species O. mediar extends throughout Crylon, South india. Central toda and the Hussingsa from Sakkins is Assan and Burma, but the recenoration Moore, which slone is represented in the collection, is confined to Southern India and Ceylon.

Habits its flight is very weak and unsteady. It may often be found fluttering close to the ground in places where there is heavy shade. It generally frequents the slopes of hills at low elevations, but is solid to accord as high as 4000 feet in the hills of Coylen. Genna Halandid Phicician.

## This genus includes the butterfiles popularly known as the Ewening Browns.

 $\mathcal{G}$  . The ferroting is where not broadly transgales with a strongly excited cost was another expert. The transmit following below, and below the lin is forcest training an another expert. The transmit following below, and plainly undeblated images. The decours is stringly and the cell rettler long, being more handled for length of the devings it impossibly own, with the constant bounds are the stringly reduced to the second of the stringly reduced in the second of the s

a graceway equacies.

There is rouch sourcest variation, especially in the markings on the underside of the wings, and, in addition to this, there is considerable individual variation.

wings, and, in addition to this, there is considerable individual variation.

This genus includes dell-coloured, dark brown bufferfiles with large, leaf-like wines.

They are active only in the evenings and hence the popular name. Evening Browns.

Only three or four Indian species are known. Of these, two are represented in the

### Melanitis leda inzsens Cramer. The Common Synthesis Brown.

Plate XVII. fig. 2.

Specimens in the enfectors: Pourtent scene of them differing remarkably among themselves in the markings on the updesselve. Both wet and dry season forms are

the Nikdrin. Polescop. Bengisters and Medres: 70 sam. There are also two dry-preserved.

Description. Wet sesson form: of Q: The unpenside is dull brown, with two large. confluent black areas below the error on the fore winer both the errors beater a white pupil-like centre. The termen in the forewing is produced and angulated below win 5 in the reals but more provinces to restroyed and appricated to the female. The bind whose bears a smaller, dark, white-centred, black, subterminal ocellus with a falvous brown ring. Other coeff are reduced to minute dots. The spical coeffus and other coeff on the undecable sometimes show through. The terminal margin of the hind wing is produced

The underside is paler, gray-brown, denesis traversed by fine, dark brown stripe. A discolored a post-discol marrow dark brown bands are research. Beyond this, there is a series of four occili, rether minuts. On the underside of the hind wins, there are six occili. the artical and authorized below the landest and the others reach amplier.

into about your buildes protections at the reals of series 1 and 3.

Dry season form / of Q : This form is distinguished from the set season form by the uppenside being of a richer brown colour and by the large black could on the forewing having a charply deduced, abort, dark velicer but above them, and a narrow curved bend angulated at vein 5 in the male and folcated in the female.

The underside of the wings is profusely blotched and streaked with black, white, or brown markings, but seeld are absent. On the hind wing, the tell-like projection at the end of vein 3 is longer then the tooth-like projection at the end of vein 1.

Eventure: 60 - 60 mm.

Review This assection in very widely distributed, required all over India, except the extracted North West. It is also framed in Confess Rearing Africa, Madaginary a Marrillon and constraily all over the Indo-Malavan Region up to Australia.

Habits: This is one of the commonest and most duli coloured of Indian butterflies. It is found in all types of country except the drivet desert regions, and at all elevations up

to 2000 fact to the hills. It to common at all answers of the year. It reads among bushes or other wateration during the greater part of the day and emerges into the open and begins to be action to the execution, expectably after dunk. Its fight is weak and below and

when it rests with its stress closed over its back, it harmonises protectively with the colour of its surroundings. They are attracted to rise fruit and the tukes of the paixworth trees. There is a great deal of individual variation in this species, and perhaps no two treft/situals are exactly alike

## Melanites phedima varaha Moore. The Dark Evening Bown

The Dark Evening Brown Plote XVII, da. 3.

Spectross in the collection Three, two of which are from Coorg, and the third from the Nighto, G3 mm. The smallest spectreen 658 mm.) is 10 mm. smaller than the minimum peccrific example.

Description: This is referred to as a case of Melantila bein Moore, in Bingham's volume on Butterflee in the Fauras of British India series, but bein is a synonym for phesistra which is the mass currently excepted.

Well sources form:  $f^{\dagger} = 0$ . The unconside is blackish bower, but is usually unmarked.

with the irregizons marking men the speec of the few wing entirely absent. The terrors of the few wing is straight and me produced. The black used-special markings are reduced, absent, or very obsence, with the with contril apon a bearst. The black wing is undicately don't become without coolit, and it mengin bears a postmant, con-fless reportant in ven 0, a treated with pale purplish lines and analy covid as in the preceding apones. Duy occuse force: if 2 if This is difficultable from the view to cover form by the

upperside of the foresting being pair only or purplish towards the terminal margins. The general ground colour is very dark shown and the other markings are more or less similar to the day seasons from of the preventing speeces, but are less a sharply defined. On the undersides, the general genumi colour is distinct than in that species and the coefficient action of the prevention of the coefficient of the co

The assurtners form of decises its pheticas is the more examine which alone is represented in the education. The rare differs from the typical form of the species in being-smaller and moved define with the markings on the uppercise hear the epox of the forewing more obscure than in the typical form. In the day season form, the terminal margine on the uppercised or footh the wings or an always pumplesh.

Emman: 65 - 20 mm

Sanger The distribution of the species Melaralis photivas extends over Coylor, Burnes, South India, Pedicabeller and the Histolyan from Kashanis to Bilden, Assaus and Nego 18th, set the more servals Moore is confided to Southern India. The more behavior from Pechandra, Central India, is distinguished by the presence of a board, yellow patch over the seaso of the free Was.

Highthy This spacies rescribins the preceding one closely to its habits, except that its flight is weaker and it keeps more to the Jungles. This appeals is readily distinguished fore the preceding cen by the ground colour of its upper able being much

## PLATE XVII

- Fig. 1. Overtreens media: mandais Moore (natural size).
- \* 2. Meisvatts iedu isvarve Cramer (x 1/4).
  - Meianitis phodina suraha Moces (x \*/<sub>4</sub>).
     Blysnius hypermuestra esselsite Butler (x \*/<sub>4</sub>).
  - Nigths hermions Linnarus (doesn) view, x <sup>3</sup>/<sub>4</sub>3.
     Nigths hermions Linnarus (rentral view, x <sup>3</sup>/<sub>4</sub>3.
    - Discophura lepida lepida (Moore) (x<sup>2</sup>/<sub>2</sub>).



#### Genus Elympiae Hibber

This genes technics the butterfiles popularly known as the Palanties. Those are brightly coloured insects unlike the members of the proceding genera and resumble specie of Danatda which they minds very closely.

 $\mathcal{G}$  9. The wings are large, with the restrial amongs survey or onlyady. The freeding bittingship, there and borned conjugate with intensity bender costs, three districts and stored to stored on stored and stored law them and the length of the wing. The hask wing is about, local with the stored conference of the stored on the stored conference of the stored conference of the stored conference of the stored conference on the stored conference of the stored conference of the stored conference of the stored conference on the stored conferen

Those besterfles live in wooded country in places where pain trees and canaplate the place of the place of

## Elymnias hypermaneria caudata Dutier.

## Plets XVII for 4

Specimens in the collection: Two, their locality is not recorded;  $78.5 \, \mathrm{mm}$ . The largest specimen (87 mm.) is  $7 \, \mathrm{mm}$  larger than the maximum recorded expanse.

Description:  $Q^{\dagger}$ . The upperside is blackfull brown, with a purplish gloss. The upperside of the foresting bears a series of histals white spots along the margin. The reversible of the little store bears a branch other true booker.

Q: This is reciding brown with the spex and energies tinged dark brown, apoint with white. The uppended of the forewing boson a broad, binish white oblique bond below the agest extending from the costs to the terroon.

The necessation which is the Southern form, and which above is represented in the Oscieton, in chiralymbels by the Inda why the full patient in both seems, in the make, the chantral Review on the superside of the Inda wing is very least out of eight with a dark rector along the terminals margin. The Bubbis white spoke on the superside of the rector along the terminals margin. The Bubbis white spoke on the superside of the second of the spoke of the superside of the second of the spoke of the superside of the second of the spoke of t

Espasse: 65 - 80 mm.

Sarge: The apecies as a whole has a wide range, being found all over Prohysolar todis, Madhya Prodesh and extending as for as Assau, Ruma and Coylon, but the moscausiate is confined to fourthern India; from Towarcore to Mycore and the Nistics.

Hinkley. This is the commonant and most widely distributed species of Eigensian and is the only species of this genera net with in Productive holds, the others being found only in January and Johnson. These briefleds need such every absock, found in once and point plantations. That fight is weak and the rate of the produced produced by the foreign periods are not produced by the produced produ

## Germs Nyths Billberg Of Q : The forewing is breakly triangular, with the costs allgisty arched. The specissorroughet produced and arcsic. The forewing is remoded. The cell is lower room there have

the length of the wing. The hard wing is broadly overlo, with a callopped terminal border. The list will over hard the length of the wing. The artinease are above, which shouping callengial club. Societiety was marks are sconsitioned present in the male in the firms of closely posited excise on the forewing.

This areas is widely distributed in the Palesacctic Resion. In India, his marks is

confined to the Minnelsyna, Kanhmir and Baluchistan.

Only a single species, N. Aerrskons, is represented in the collection by a single specimen (55 mm.), but as this species is recorded only from Central and Southern Excrete its not described in the consent account. Pairs XVII. But. 5 & 6.

Among hadien species, only N baldies and N, particults seem to be common. Both see

## Family AMATHUSIDE.

The Ameliouside.

Yoursetty, the specie of the fixedly were also included in the Nyospinilides, but at

present they have been separated two a distinct beauty. One Australandon. Those are size, dedi-elections blurieffers - elibory been are heightly obtained. The twings are large and bread, with the costs on the first wing strongly surfact. The upper is action under with distinct and the interior straight. The undersisted of the wing generally beauty and also distinct and the interior straight. The undersisted of the wing generally beauty shorter, with generally beauty and the eart. The foreign was made and understand whereign with general properties of the eart. The foreign was made and understand to the much but they are and stranger to the feeds of the wind the weaking.

The genus Discophara is represented in the collection by a single species, Discophara lepida Moore (South India).

### Genus Discophera Sciedural.

### This genus includes the butterflies popularly known as the Duffers.

of  $|\Psi|$ . The forming is broadly triangular, with the costs attempty probed, and with the perspectation and nightly produced. The tempers and decrease are straight, the terminal perspectation of nightly produced. The tempers and decrease are straight, the terminal region being almost a right neight. The cent is substant and broad. The high whigh is triangular, with the costs analyty acrossly. The terminal is convex one discover is an angular to the special of which. The internal is write flux across the contribution of a product of perchading existing on the stand wing.

Of the three species recorded from India, only one species, the Southern Dutler Discophare inpide ispalie (Mones), is represented in the collection. But even this operior is now.

### Discophora Ispida lepida (Moore). The Southern Duffer. Plats XVII. fid. 7.

Plant XVII. fig. 7.

Specimens in the collection : A single specimen from South India: 94 mm. Its exact locality is not recorded.

Description : This species closely resembles D. tuills, the common Duffer.

of : The upperside of both the wires is dark glossy brown, but without any blatch white shown reflections. The forewine is traversed by three code blue scots with a rather.

Ill defined sectes of four smaller subterminal spots. The upperside of the hind wing is unspotted, but bears the small, control set beand which is very complexuous. The underside of the wines, is yellowish with a broad, dark bouwn discal band access both the wines, and a promote subterminal band on both the fore and hind wines.

both the wings, and a prominent subterminal band on both the fore and hind wings

Q: The upperside of the forewing bears a bislain white broad band, and the
upperside of hind wing bears more numerous, larger and more sharply defined markings.

uppersists of third wing bears more numerous, larger and more sharply defined markings. The undenside is of a more or less bright yellow colour, with an additional occiles in area. 3.

Emasse : 85-110 mm

Range : Ceylon and Southern b

Hobbits, Title species is usually found in the hanks to jurgies of Southern India. The egg one told on the hanks to led deep in radial on the underside. The region ere to the parties have more presently seen than the formale. They are active only at done and duals. The makes have so very strong occur diffusing three that each break. The first led to the charge of the second unabsorber, Butterfillers of this appetite see most consumely most with dueling the months of shart word hanks. The formals for dualing the "deep cluster the" deep.

### Family NYMPHALIDAE

## The Nonstellide

According to the older classification followed in the volume on Butterflee by Binghom in the Frame of British holds series, the forms now grouped under this family were included in the subfamily Nyaphakiras of the larger family Nyaphakiras which included also the forms at present belonging to the Satyrides and Americanides. At recent the furth Nyaphakiras is more resident.

This family includes large, usually brightly coloured natificities with a variety pattern of space, actions and histories, with never sent black colours of home production with in the colour partitions. The wings are of varied shape, and the hard wing may be tailed, too bothed or resunded. The body is talked, with a stead and largely the faces and a comparatively after the faces. The environmentary largely many consists of the production of the consistency of the colours and the consistency of the colours of the colours of the colours and the colours and the colours of the colours and the colours an

In size, the Nymphalide vary a great deal, ranging from very large forms over 120 mm. in expanse to mirrate core handly more than 20 mm, across. There is very little sensonal varieties, second in second or see.

The Nympholds attain that maximum development in the trapical and subtrapping of the south. They are sustained using butterflate, and are subtine found solution in the short moral purchase until reaso. That more in flight ratios are great solution for the solution of the solution of the solution of the solution of the solution. Others have a giving digit and by close to the agreement. Bottom for these is deliborations, the whole solution of the solution of t

About fifty genera of this large family are known in India, but of these only a concernitively few are represented in the Museum collection.

#### Gerras Charaves Ochsenheimer.

This genue includes large and robust butterfiles popularly known as the Rajaha. The wings are taway or chestral above, with block apical and terminal markings on the forewings and dark marginal markings on the bind wings. The bind wing in most species in the new party.

is triangular.

On the foresting, the coats is widely around, with the spex produced. The terminal sample is concave. The dorsam is straight and the termina rounded. The cell is less than

helf the length of the wing.

On the hind wing, the costs is widely arched, with the apox very broadly rounded.

The termen is strength, more or less ecolorceed. The mades are teethed at vein 4 and in

the females, the termen is produced into a fall of the come piace. Occasionally, as in the Block Rajah, it is produced into two tafa, at wine 2 and 4. The cell is closed. The decour is long, and the tormal angle well defined.

or rang, mass said torrest anger was netured.

Of the five aperies commonly known in India, three are recorded only from Assace.
Sikhin and Burma, and only the measting two are known in South India and Covien.

# These two species slone are represented in the Museum collection. Character polycona imas Burker.

#### The Tereny Enjoh. Place XVIII, fig 1

Spectruous in the collection r. One, Nilgrin, South India; 102 mm. This is slightly larger (2 mm.) than the measurum recorded expanse.

Beautytists:  $\vec{G}$ : The upperside is a rich fabrous bown. The foresting is very teoridy bordered with black. A breast, white discol board is present, defined on the larms side by a black line. This discol board is continued on to the hind wing. The terminal black bodder bears near its timer margin a notice of yellowish brown spots in some spectroms. In the present appearance we three such parts

On the hind wing, the apical area is black and below, this is continued into a substrainal series of the substrained in the substrained in the substrainal series of the substrained in the substrainal series of the sky decreasing in the towards the forms. The spiral these tooks in market with two small white arterial fact of the Tender to the substrained in the substrained

ocutely angulated.

The underside is purplish turnry with a allowy indescence on both the wings. A number of pole strucks connected into irregular lines form a characteristic pointers on the

number of pole atmake connected into irregular lines form a characteristic politers; on the under number of the wings.

Q | The wings are much larger and paler than in the male. The upperside is towny

fairness, paler than in the male. The base of both the wings is of a brownish tist. The discal white band is very board and the terminal black border of the forewing bears near its timer mangin a series of yellowish white semi-lunar markings

ns timer margin a series of yellowish white semi-lumar markings.

On the hind wing the block, subterminations of spots are marked with complexious with semi. The fail at the termination of your is unsidered.

The antennes are black and the head, thomas and abdopen follows brown.

The species Character polyaents (Cramer) is subject to considerable variation in

colour markings and ground colour of the wings, expectably of the underside of the wings, and hased on these verificities as many in their men have been recorded, meanly, paraphics, Caylins, levez, Swelth helin to Orosso, Multipui Prodech and Kondon, bernassa, Manootere, and hierax, Siddhin to Assessa and N. Steram. Deposited roce, invest Buffer, to which the yelectrons in the measure collection bearing, in studies to the hyginal forms.

assistant, but the black horder is comparatively narrower and name towny brown markings may be present poor the border on the torross of the uppecable of the forested in the male of the dry season form. In the volume on Butterflies by Birnsham in the Fauna of British India, series, issue is treated as a race of C. peophen which is dealt with as a separate species, but inter works treat both as races of the single species. C. polusens.

### Emesse: 90 - 100 mm Rayron: As tradicated above, the magic of the species as a whole is very extensive, but

Conemity it is found at low elevations.

that of the present race is confined to South India to Octobe. Mediate Predests and

Making This approach is not of the most houselful and of the same time action member of the darmer Character. The make are much smaller than the females. It is difficult to collect appringers of this secrets as the scale featurests the tree tage and the fresh generally keeps within dense cover. In South India, it has been recorded from the jungles

of the Malabar Count elever the Western Chats and In Museum Womani and the Militiria Characon fablus fablus (Febricius) The Block Retals.

Plate XVIII. fig. 2. Specimens in the collection: One; its exact locality is not recorded; 66 mm. This is slightly amplier (2 mm.) then the smallest recorded expense

Description : of Q: The appendie is black; both fore and bind wings are traversed by a vellowish green or whitish discal band, broken up into a series of apota towards the ergy of the fireness. There is also a subtravalual series of similar but amaller anotadisappearing towards the ages of the forestar. The forestar, in addition to these exots. have a substant valley and beyond the lower over of the reli and an obliver costal and beyond it. The hind wing bears an additional series of substant-vellow terminal scots. terminating in a large, blatch green appt at the formal angle. The spaces of votes 2 and 4 are produced to form two equally well developed talls. The talls are longer in the females, but sharper to the males.

On the underside, the ground colour is dark gray, with the basal area of both the winds transmed by transmers black laws. The rell of the forester bears these black spots. The discal band is white, with a series of dark yellow subterminal spots and two terrornal white anoth year the ternal angle. The undenside of the hind store beam a subterminal and terminal series of larger, dark yellow spots which are bordered with dark paratine. In eddition, there is an inner subterminal series of white spots and a posterior terrorized block fire. The terrolized area is recrolled; drey in both the wines.



### PLATE XVIII

- PLATE XV
- Fig. 1. Characce polymers from Butler (x \*/\_).

  2. Characce folias fichias (Februsias) (x \*/\_).
  - Eribora athamas agrarius Swinhoe (x \*/<sub>4</sub>).
  - Aponara partients atocinus Frishstorfer (x \*/\_i).
     Euripus construits meridionalis Wood-Mason (x \*/\_i).
  - Euripea construits meridionally Wood-Mason (x \*)
     Eutholis lesides (Buffer) (x \*/.).
  - Eathala legisles (Butler) ix \*/\_i.
     Eathala gazada (Moore) (x \*/\_i).
  - Rushang garwan (Moore) (x\*/<sub>4</sub>).
     Enthelia mair Popter (x\*/<sub>4</sub>).
  - 8. Euthelia nais Footer (x \*/+)



Denomina Capalonar of the Eurorelies Emerge, 70 - 80 mm.

Range: Crylet; India, except the extreme North West; Himslams, Stickin; Bhutan, Central and Western India: South India: Assura, Carbar, Burms. Nobite: This apectes is the most widely distributed member of the genus and is found in both little and plates. Its fact plant is the coveres Terrented, and this perhaps accounts for its wide distribution. This species is very strong and active in its flight, and is found matrix at low elevations. These butterflies are protectively coloured and are

#### attracted to ripe fruit and pake juice. They generally settle high up on the trees. The quales frequent abody grows and fir in the vicinity of water. Germa Eriboea (Mooce)

This gross includes large, attractive butterflies popularly known as the Nasaba. They are more or less similar in appearance and hebits to the preceding evous. They are dots on the dark terminal margin of the hirst wing, or pale vellow with a broad, black, in the preceding genus. The hind wing is tailed at the aprees of verus two and four to both the sexes.

This is a synogram for Eulopic which is the older mame under which it is described in the volume on Butterflies by Birutham to the Passes of British tradis series and in "Butterfiles of India" by Antrees.

Only a single species, Erthora athasus, which is one of the two species recorded from South India, is represented in the Museum collection. Most of the species of this ecous are confined to Sückim, Assum and Burms and some species extend into the Maleyan aub-region sho.

## Eriboes athemset serurius Sytohoe.

The Common Naveb Photo XVIII. Set 5.

Spectreess in the collection. Four; of these two are from India, and the other two from Rengron, Burray, Of the two ladion executives, one is from Pulneyer the exact locality of the other is not known. A fifth spectmen from America is also represented, but it is probably a different species, 63.5 mm.

Description: of Q: The appurish is black; the fore and hind wings bear a broad discal tearswerse area. This is of a pole sulphur-vellow colour and is of varying width. substruct vellow agot is present followed by a senall dot beyond, also of the same colour On the hiral actor there is a subdecembral rose of arrest, note sellous, transportance absorber streek-like spots. A terminal row of darker vellow apole is also present in typical

Emanes: 60 - 75 mm.

appearable, but these are paler, the discul band being boolered on the trater side by a broad, dark brown hand manrined with black lines. In addition, a subterminal series of

dock lunules on the foresting and dark red lumiles on the hind wing are present. There are obscure manrical black, white and vellow spots on the hind wing. The fermies are because them the realism and beauther discal here! and such emiral and of the foresting more. extensive. There is a great deal of variation in this species in the width and colour of the

Anaper Kurks to Assum and Burmai the Hussiayas, from Kashasir to Sikkins; Western and Southern India. Crylon: exectically fitrourhout India. Number: This is the commonest and most water distributed species of the press; This a nerves has been decided into a number of races, of which at least two may be mentioned. (1) E. othernes othernes the Northern and Eastern race, and (2) E. othernes agreries, the Southern Indian and Cesion race, to which the two Indian specimens in the Museum collection belong. But each race is so variable in itself that the distinguishing Seatures are not very distinct. This butterfly is found in forested remore throughout the Peninsule and to most abundant to invades aspectable in the Himstones. It is also acceptions franci in open country. As usual, the females are more retiring, and are solden seen, Specimens of this specim may often be seen fiving around and settling on tree tree. but they also sometimes by low and settle on deeps patches and manuse beaps. the Emperous. The colour of the winds is nather variable. On the supperside, some are dark brown, with white or tayery markings. In some, the males are closer black. In most In the forested, the costs is allebely arehed, and the area recorded and assessment produced. The termen is concerely indented in the modile. The torque is rounded. The bind wine is courte, with the costs slightly arched and the termen nearly straight, but with antennos are long, well over half the length of the forestor. The males are sunshine-leving issects, flying strongly and often seen busing on leaves near the tone with their wines over. They are attracted to concrete food and manuare house, but acidem visit forwers. The females are seen less frequently as they keep to the undergrowth. All the species frequent only luncie country.

Bullede, Medicar Government Macrom

- IN B. VII. NO I

Most of the Indian species of this genue are confined to Assen, Sibbles and Furma.

Only a single species. Apathra parisatis Westwood, is pocouled from South helie end

Crylon, and this is the only species of the grans represented in the Massaux collection.

## Apature periostis atsoinus Produterfer.

Plate XVIII, fig.

Specimens in the collection: Four, of which two are from Pulsey Hills and one is from Coorg. The exact locality of the fourth specimen, which is nother damaged, is not known. One of the specimens from the Pulseys is a female, the rest see makes 54 max. The largest specimen measures 65 mm, which is 8 mm, theget then the manifestiment reproductive price.

Description: Q\* The uppermise is unalimently velocity block, without my markings except fire in marker where a period on the invertice, ITA wavefurate to have favor purplish became with dark ferrugations become handing at the base of the wings and along the count angain and the firewise. We have the posts are presented in the darked are in the other for each first variety, it was the reventige than white per-aspicules port in larger than on the uppermise. The entertaines and their the body are that the body are that the other for the section of the body are the section of the section of the section of the body are the section of the section of the body are the section of the section of the body are the section of the section of the body are the section of the section of the body are the section of the section of the body are the section of the section of the body are the section of the section of the section of the body are the section of the section of the body are the section of the section of

Q . The uppension is prilowshi brown. The bessel men in both the wings in charles that an engaleshed meatin conviewed projection of the absolute brown near. But effects bound in brown and pairs, but is transplar on the hind wing. On the hind wing, the bessel shade in brown is about towered by a series of observe dark specie. The undensible is publicated in observed by the proper of the proper of the species of the markings more or less the same as on the underside of the made. The astronous and hody are light brownish, probation below.

## Espanse : 45-50 mm

Range: The range of this species as a whole extends own Caylox, South India, Kumson to Assense and Bursan. The present rare, which is the senthern race, is Runal to Caylon and Southern India, and has been segmented as race custode Moove. In Bland and the contraction of the Caylon of Caylon has been segmented as race custode Moove. In the Caylon of Caylon has been contracted to the Caylon of Caylon of Caylon of the Caylon of Caylon o

Habits: The makes we mere frequently seen. It has a powerful flight and comes out in the aumebias estimpt on law busbes and trees. This female is some retining and deeperments to the challed flow busbes and undergrowth. This species is selvery found in high, we collect country. In five this late, it is confined to the Westerm Ghata, Palmys, Nightie and Townscore Halle.

## 22 Belletin, Medicas Government Maneum

Getrus Emplyes Westwood.

This genus includes the betterfiles popularly known as the Courtesame. Of the two inclins species of the genus, one is found only in Silckin. Assum and Burne, while the

other. Eurjour constraint (Westerood) which alone is represented in the collection, is known also four South India.

The Secondry is triangular, with the costs broadly scoked. The Secondry is correct, but slightly concern behind the middle, and slightly angulated at the termination of with 2.

The hind wing is more or less triangularly owns, or subquadrate with the terminal margin scallopped and produced at the termi angle.

Species of this groves, especially the females, mixed those of Danaida year sharely.

## Burious constmills (Westwood).

## The Painted Courteeau.

Specimens in the collection: One, Nightie; 60 mm.

Description: of : On the uncomplet, the forestest is black, with bound, white

structor and upots; these includes a long white streak from the base in zero. 1, a elember struck in the cell, and a broad, chilique, median band, followed by a row of patiest, white strucks in information. 3, 4 and 5 and a post-discus eries of elember structor. A terminal row of white dots, elempied into strucks towards the apen, are also present.

The hind wing is white, traversed by black voice. The termen is black, with a subternized row of four or the crimeon spots posteriorly and beyond this, there is a regular, terminal row of white spots.

regular, territation row of write spots.

The upderside is similar, but the underside of the hind wing bears crimeon based markings.

Q: 1. This is straine to the main, except that the appendix of the blad wing is clear with, or enforce-obstant and the learned on pois are redener. The disease band is found only in the Southern form. S. creativistic mentionality Wood Masses, in which the rings perforance in the collection belongs, for the francise have the based extraors part one the undersafe of the fixed wing. The extremes are black, and the bend, through each other men black and mentals with white begands.

Expanse: 60 - 85 mm.

Storger Southern India: in North India, to distribution ranges eastwards from Debra Days to Stickten and to Assem and Russas and sentenced, from Stickten to Kursasen.

Hubits: This is a rure species, eithough it is widely distributed, especially in regions having plenty of reinfall. In South India it has been recorded from the Night's and Pulney

bertterflien.

Hills, where it may be found flying at low elevations. These hutterflies frequent dense lumples. The makes have a weak, fluttering type of flight and may often be seen resting on tops of birth times with the wisses mertially even. The fibrit of the freezie rescribbes that of the Denaids. This species closely minutes the Denaid. Blue Givery Titer (Denait

### Germs Ruthalfe Hilbner.

This seams includes large, robust, strongly built butterfiles popularly known se the Barrona County Early and Doken. Although more than a descriptor of this stress are recorded in India, most of them are known only from Assam, Stildin and Burns, only about these species being from the South India and Coulon. All these three species from South India are represented in the Museum collection. These are, se a rule, dull-coloured

of 9 . The Surveyors are trainally triangular, with a broadly arched costs. The hind wing is more or less subquadrets with a broadly rounded apex and a torque which is often produced and angulated. Males are generally dark brown on the upperside while fermales are unually larger and pales. These butterfiles (both males and females) are constraints attracted to core rice fruit or toddy and hence they may be easily caught union puttable balts. Males and females are equally common and of similar habits in this species, unlike as to most other apertes of builterfites.

### Enthalia levidea (Patter)

Photo XVIII, flg. 6.

Specimens in the collection: Three, one of which is from Trivandrum, and the other from Rengoop, Durme: 71.5 mm.

Description: of 9 : The apex of the forming is produced and the termen is followed below the onex. The termen of the bind wing is straight, but slightly couled at sate 3. The proposition is dark horses with observe black transpared markings across the cells of both the wings. The male bears a uniform pale grey marginal area which broadens

productly from the over of the formatout in the burrow of the bird server in the female, this magricul band is doller and darker On the underside, in the male, the forwing is yellowish brown and the hind wing owier. In the female, the forewing is bright vellow, and the hind wing paler vellow. The terminal markings are bloke ever. On the underside of the females, the cuter disculling is undulated and rune peculici to the termen. The underside of both the wings are transmert by diffuse broad discret and necessary real-discret dark concurred basets.

#### - -- --

Runge: Peninsular India, Sciuth India, Oriana. Bengul and Central India. In South-India, It has been recorded from the Nilgists. Consum. Myore and Travascore. In North-India, 3a distribution reages from Numero to Burras, and even to Makey Peninsula.

Makks: 'This species is matter new in Seath halds, but commoner in North India. It is precedify found in Frents, superiodly in the more neighburgies. These butterfiles may be not with in jumple cleanings and paths adjoining wooded districts and are fairly shouldest at low describes in the Handaysan in North East India. India of seath of the Makes are locally contained on the wastern side of the Nilgiri Hills. Life this preceding a species, they are noticed to fault and these sides.

### Buthalia garuda (Moore) The Baron. Plate XVIII. fig. 7

Specimens in the collection : Two, Calicut, Malahar Ope of these is a female, and is larger than the other: 67 mm.

Description : g' : The upperside in dark brown, with characteristic loop-like markings in the cell of both wings. These markings are followed by a discal dark brown

band bookered on the control by a service of the value spote. Reprod these, two sends, prospital spots are present: Book stage bear a substraints ories of data; spots, but these are nacce distinct on the hird wing. The hird wing bears a classif service of banks throw chapping select, pointed outserful and diffuse towards the inside, in addition to the series of subterminal black spots.

The sudarrisks in substraints in the manufaces before more or less straint on those on the

upperside. A broad terminal pole like bend is present, bordered by a narrow, dark brown.
The sleng the termen.

Q. This is larger and much polar than the male, with the efficient within spot on the foresting being maintain larger and more designed may see also more restable in mine and form. A straight, broad, with others less in present in the Coylein more journants Moored, the understale in more validationals with the manishings longer and distinct than in the make. Exercises 15-50 mm

Surge: The Himsleyes, at lower elevations. Assum, Cacher, Burma and extending to the Major Peninsula and Sumetra, South India and Carton.

to me satury remains and commans, cours mans and cupyon.

If the state of this is n common aspecies, and is the most widely distributed genusher of this genus. It is found on the plakes and at low elevations on the hills up to about 4000 feet.

These butletiles for repitly and others seeds on the ground with the wings agreed out.

Empase / 60.70 rem.

They are somehine-leving insects, and are attracted to over-ripe fruit and map exacting from trees, life other species of the germs. Their fixed plants are blungs and Cashres-mit trees. This species is nather variable in the number of discoal white upon which may assumbtions be refused to two or absent all interests.

### Buthalia nais Foreter. The Baronet.

Piete XVIII, fig. 8.

Specimens in the collection: Two, one of which is from Mywere. The locality of the ser aperimen is not recorded, 66 mm.

Description:  $\mathcal{L} \subseteq \mathbb{R}^{N}$ . The unprovide is however, where the others from all both.

wings being later, abstracted with witte. The Scienting laters is not at the agree of the cert. with a large opt to between There is also between (Althycolorus blave and a part of these laters). The margin of the terms is black. The hind wing been a large black spot below the middle of the content and a part-disease areas or black spots. The black border on the terminal margin is brander than in the Scienting.

The undersaft is trouved to the content of these three processing and the black branches.

of the cell, and layoued thin, a citations like cloped with blook. A blooky people is present in the base of sease 2 and 2 as on the uppersists, and a dark there on bighty and issued based sessions from the costs to visit & bredered on the consists by a series of large, within specials. A substrainful antices devide instance files are point in a present. The undersists of people. A substrainful antice of which issued feel on price is also present. The undersist for the people of the contract of the people of the people of the people of the people of bedrever with block a direct which based may be upper and a post-fixed series of result. Block-people of the people of

berdared with black, a disend with bend, becken up into apote and a post-discul series of annall, black upots.

The head, thoses and abdomen are taway end above and benevoleh pink below. The agranges are black, topped with bright brown.

Runge : South India: Crylon, Lower Hinskyna: Debra Dun to Sildeim. Madhya. Prodesh and Saureablin. Printhnilly throughout the plates in Protessian India.

Fradesh and Saumentine. Practically throughout the plains in Frezinskie Initia. Bablis I, Tile is a manifold-conjugated period and babble the day areas in firement country at low elevations. It is more common in the plains than on the Idlas. He fight is rather weak and showy close to the giound. If the conjugate the second in the conserting frequently. Ours of the food plains of this species is the sail time. Shower releases, This bufferth is over of the point brighty coloured appears of the process, and, tiles other This bufferth is over of the point brighty coloured appears of the process, and, tiles other when the contraction of the process of the process, and, tiles other the process of the process and the colour process of the process.

members of the ensus. It is attracted to over rice fruit and tree ago.

I N.H. VII. NO I

### Gerras Parthenos Hisburg.

This is a ginus of kings, whichingly coloured butterfiles known propularly as the Clippers, with a powerful thigh! Only a single species is known to India, although three neers of this apecies have been received. In the Fauna of British India welcame on hypophaldian, two of these reces are described as distinct apecies and the third more as a new of one of these species.

### of O . The forestor is elementally triangular with the costs eligibly emiled. The

termin is slightly exclipaged. The cell is long, narrow and closed, about half his longith of the wing. The Inim wingle subquestrain, with the cests alightly exched and the termin scalinged more presidently then in the forwards, scalarioty, but straight posteriorly. The pretice freezewing to be trained as alightly preciseed. The arrienness are long, more then that the length of the forwards.

The single recorded indian apocies is represented in the collection by the race circus which is the South Indian form. The Ceylen form is cases us, and the North Indian mee, found in Assem, Cacher and East Bengid is gundristan.

### The Cityper.

Planto XIX, Sig. 1.

Specimens in the coffection: Four, of which two have their wings somewhat mutilated. One of the apocimens is from Tricture, Malabar, one from the Niigiria, and two from Trictural runs. 102 zero.

Description: The following description applies to the typical form of the species. P. makits.

phis.  $\vec{G} = \text{The ground colour is bright green. The foresting beam two broad, black$ 

atomics from the base, and very large, sensi-transparent white spote, bordered with black on the discoil area. Post-discoil and tensional black bands are also pensent. On the black witte, a band and such band black attrack and transparent series of black

On the hind wing, a based and sub-based black streek and a transverse series of black ports, getting smaller anteriorly, are present. In addition, two subcostal while apids are present. The discal area bears dark brown or blackish paired streeks in the interspeces, coalescing on the outside, and beyond this, there is a post-discal series of triangular dark scots and a terminal broad, dark band.

The underside is pole blaish green, without the block streets from the base of the utage, but with the other markings as on the uppendie, although less clearly defined.

The ground colour fades into an early grey towards the terminal margin.

The automore are block, and the bend, thorou and obligates become green become with

Provinces.

Porthese aykin steam Moore, which is the Stutic Indian non expression in the Collection, resemble very must be typical firm described above, except that the promot colour of the upper adult is because green and that of the undesteds is pair greening in proceeding the order process of the terrated ungages of the foreway. The described transverse advances that these on the undested of the hitself ungages of the foreway in the consideration of the control of the hitself ungages.

## Espanse: 105-125 mm.

Ronger The range of the species as a whole extends over Cryton, Western Ohets, Nigiris, East Bengal, Assem and Burms, but the race strens is confined to South India (Western Ohets, Torvincere and Nightis).

Maketer This is one of the next magazinest of all indian Nymphelitis. The broasy

goes mee from 50 uits incide in perfectably beautiful. This species is confused to think: Jungles with planty of retified in 16th bettern (10th at 16 occurrent at leavant between 1000 and 5000 feet. It is capable of very strong and powerful flight, being often damaged plant governed whopp is so brid chances. It is mainly board beauting planty among the trees, and frequently settles on beaves at the tree tops with the straps spread out brittenship. This is one of the impact and next settling a species of South index hypogleshife.

(Introd. Heavanth Factories.)

This genus includes medium-sized burnerfiles popularly known as the Admirals. They are bown, with usually a white band across both the wings, the band being either continuous or broken up into spots.

Of Q: The foresting has the apex produced and the costs eligibity arched. The trems is obtains. The cell is abort, no rowly closed, and less then half the length of the wing. The half wing is pera-shaped, with the apex rounded and the costs adjuly arched. The translat margin is even or alightly arched. The translat margin is even or alightly arched proport. The archemes are longer than half the intent of the when in the lettice access, with a regional wall arched and the cost in the cost access, with a regional wall arched and the cost in the lettice.

These butterfiles are mostly hill species, tribabiling wooded areas with plenty of spills. Their flight is strong and swift and they often gide in the six with the wings spread out.

Of the eight indices species, most of which are known only from Assaus, Sikkins and Blutters, only a single species. Liversitie process in represented in the collection, this being the only assets that is trucked to Carlon and Persissains being a such of the Carton.

## Limenitie process undifragus Fruhetorfer.

### Plate XIX, for 2

Specimens in the collection: One, Mulabur: 63 mm.

species.

Description: This area is a box horse referred to as Madaus reports in Ringham's unbarre on Butterfiles in the Fauna of British India series and in Antram's Butterfiles of India, but

of 9 . The uncertable is nich reform brown with a broad, discal white band across both the wings. There are short, transverse black lines on the base of both the wings. Two are acted white mosts are assent on the forestor. The terminal border of the formation in black with transmits rejected triumpales are to and transmed by ten fine closely set, parellel, undulated lines, suched into lunulc-like curves estatest the black

areas. The blad sent been a mediational series of black state, with an easter series of black spots, a subterminal black line, and a terminal black band The underside beam similar but more clearly defined markings. The basel portions of the wines not pale bites on the underside. The body is rulous brown above and bluish

Emposer 60 : 25 mm.

Range: The Historiess, Assess and Durrer, Bengel, Peninsuler India, south of

Mobile. This is the best known and sport widely distributed member of the senses in bette, tehabilited wooded reviews with heavy or myderate raterful. This are rise feature in low elevations and may often be not with in open pieces and clearings adjoining forest. Stell has shorn a detailed description of the lural states and metamorahouts of this

The present race, undiregus Fruhsturier, is confined to Peninsular India. The Coviers race in designated as equitions Mosco, which is a durier form, with the upperside of the Monte dealer become

## Gerres Pantonnela Hidones.

This genus includes medium-sized, dark-coloured butterflies, nonularly known on the Sensors of The preventile is dark horses with markings similar to those of the second Neptle, but may be distinguished from the latter by the abdonous being usually harred with white or times vellow to confirmation of the inner discal hand of the hind wing.

## PLATE XIX

- Fig. 1. Parthenes agints stress Moore (x <sup>2</sup>/<sub>4</sub>).
  - Litmentite procris undifregus Pruhetorier (x \*/\_s).
     Pantacoria solescolora kumara Errane (x \*/\_s).
    - 4. Pantoporto pertus (Lizzaneus) (x  $^{4}/_{q}$ ).
    - Neptis columetis silgatos Mocre (x \*/\_s).
       Neptis columetis silgatos Mocre (x \*/\_s).
    - Neptis jumbha jumbha Moore (x \*/<sub>4</sub>).
       Neutis Jumbha parmana Moore (x \*/ 1).
    - Mepito Aylan narmanu Moore (x <sup>2</sup>/<sub>4</sub>).
       Mepito somu kollava Moore (x <sup>3</sup>/<sub>4</sub>).
      - Neptie somo kolinura Moore (x \*/ ,).
    - 9. Neptie Aordonio Aordonio Stoli (natural size).



 $\mathcal{O}(2)$ . The forewing is short, broad and triangular, with a blant spec and the costs strongly arched. The termen is nearly strongly. The cell is necrosly closed. In the hind wing, the costs and the termen see rounded, and the downen is nearly straight. The cell is open.

The sestences are over bolf the length of the forewing with a long, narrow and gradually enlarged clab.

Species of this genus inhabit wooded areas hearing plenty of mandal, especially in the hills. Their flight is strong and usually consists of a few mipf dispring movements of the wings, followed by a smooth glide with the wings held alightly below the localization! These butterflies frequently the videoly of afterness and rivelets in forcets and effort actific down on lowers and blanches, with outbroomed which.

About a dozen species are known in India, but most of them are from Assem, Sickim and Kashuar, and the range of many of them extend also into Buryas. Only four species are found in Proteinship Label and in the Western Glaste, and of these only two are suppresented in the Museum collection.

# The Stuff Sergeons. Photo XIX, fig. 3.

Specimens in the collection: Two, one from Niigirls, and one from Coorg, 65 mm.

Descriptions of 2 in The upperside is block. The formula pleans a deep red stream, in the cell, divided bries by a troose here. The discuss and received marking new white The fitting on the terminal analysis is block, alternated with white. The underside is highly electrical red with the white mechanism as solver. The undersided of the lost what pleans a series of disn't cheered of the lost what pleans as a rises of disn't cheeren are for surface. In the mass, the abdomen is not handed with white a series of disn't cheeren are for surface. In the mass, the abdomen is not handed with twint such as the surface of the disn't be found here a white inconverte based or the unseemble.

of the abdomen.

Runge: Western Ghets, Nilgiris, South Biber, Coorg, Himskyos, Simis, Assum and Burms.

Hubbler Tale species frequents low clevations in the Hizzelayas. It is locally common in creation places, and is often found near streams and revulets in forests. In South India it is found in the evergreen forests of the Nilgirie and Western Obster.

# Pantoporia perius (Litmonus) The Common Sergmant.

## Pinto XIX. 6g. 4

Specimens in the collection: You, one from Palesys and the other from Coorg 99 mas.

Description: This species is referred to by Antones in his book, "Suttletflies of India" under the description: Althous which is but a securior for Penhanuts.

under the generic neutral Allayses, which is but a synortrum for Philatopout,  $\tilde{Q} = 1$ . This upperties is black in the mask and dirth from in the firmatio, with while markings. The apparable of the forevelop lears a cell streak, broken up into them opinities  $\Omega_{tot}$ , direct before these law points and a direct least firm formed of a vertex of close set upon, a post disord section of current, because when the post of the contract of colors and finish the contract of colors and to appear a post disord section of current, because when the colors are districted in the colors and finish the colors are districted in the colors and finish the colors are districted in the colors and the colors are districted in the colors are districted in the colors and the colors are districted in th

The undereide is bright yellow, with the white markings so on the uppenside, but heavily bordered with block, and both wings have a terminal narrow block band on the underside. The body is block above with block with those transverse bars on the abdomen, below, the body is white.

Еграпос: 60 - 70 mm.

Range: The Pittashayan, from Simin, contents throughout the hills of Western, Central and Peninsular India size. Burms and Southern India.

Hobits: This is one of the bestkrown and most widely distributed species of the genus. It is not common, but may be locally abundant in certain areas. It keeps mostly to low-elevations and usually fine close to the ground. Its fight is strong, and it keeps their most of the time soldiers are still not down on lowers or an interview.

The species of this genus closely resemble those of the pecceloning size in colour analysis and are popularly known as the Solders. They are normalizes stills black or dark foreign wings marked with three horizontal bands which any less white, belocated, a transpir bounds explose. These excents of an artist access the cell, a twonder closed band and a third coure band contrasses in both the wings. There exist, a twonder closed band and a third coure band contrasses in both the wings. There exists a contrast the court of the court of

These butterfiles are confused to the writer, hilly regions at moderate elevations and can be easily recognized by their greenful, safing type of fight in which the wings see held

horizontally. The markings are identical in both the sexes but there is considerable ecesomal variation.

This is a large genus comprising numerous species of which some are found in South. India, but most of them are confined to the Hissalanua, Asson and Burma. Only five of the most well known South Indian species are represented in the Museum collection.

Neptis columelle migiries Moore, The Short-banded Sailer.

## Plate XXX, Sg. 5.

Specimens in the collection: One, Nigitals, 65 mm.

Descriptions of 9. The upperside is black, with white markings. The upperside of the Soweting bears the characteristic white streek in the cell. This streek is wideet at the apex and bears a notch towards its pre-spical and. A large triangular appt is present beyond, well separated from the main streak. The broad white discul band is composed of spots arranged in pairs. The spots of the post-discul series are small and ill defined.

a series of poet-discal apota which are larger and belder than those of the forestrat, and The underside is greaten brown with the white markings on on the superside, but broader. The terminal margins of the wings on the underside are traversed by pole, creacent-like markings. The body is greaten brown above, white beneath,

Expanse: 60 - 70 mm.

Banes: Seathern and Western India, Sticken, Blooken, Assem, Benefal, South Biber and Burne. It is seen in South India, where it is confined to the hills.

Hobits: This is a common trans species, mostly confined to the hills. In South India. it is cover still, and is found mostly in the everyteen and deciduous forests of the Nilviria and Western Ghats, Coorg and Mysons. The larvae feed on species of Dolbergiz, a Legarinous plent.

Neptie lumbha lumbha Moore. The Chestrast-stresked Satier. Plate XIX, Sc. 6.

Specimens in the collections One, Fulneye, 60 mm. Description: This species is very similar to the preceding one.

Bulletin, Madrett Government Massace of 9 : The appendide is black, with the markings similar to those of Neptio colourelle, but with the discal bands narrower and the interspaces deeper black. The white markings have a pair blaish green tings in fresh specimens. The two hindmost sports to the discol series of the formion are almost equal to size.

On the hind wind, the post-discal series of white, hundo-like spots are somewhat diffuse and confluent and form a more or less continuous narrow rule band. The underside is note: than in the preceding species and in the forestor there are

the veign are much darker than in Neohamile and there is a discal teansverse series of book house anoth. but the rout-discoil markings are rather diffuse. The body is block above, and white below.

## Evrones 60 - 20 ren

the single specimen in the collection (from Pulners) belongs.

Mabile. This is a common species confined mostly to wooded country. If has not have recorded from the Mirrobone. It is receib found at loss elevations. The largest feed on vacious Larumippus and Malencoous plants. The habits are more or less similar to floor of the other members of the sense, with the name characteristic antitus flight. Neptra parabba parabba Moore in the South Indian race to which

### Rentis byles versions Moore. The Common Soller. Hote XIX 64. 7

Specimens in the collection Ten. Madray, Cochin, Pulmers and Coope 60 pars. The largest specimen/62 mm. (is slightly larger (2 mm.) than the maximum recorded expanse-Description: This executes is described by Rivelbarn to his uniques on Butterfiles in the Promote of Buttach Locks names corder the name. Next to excure any other the name of Services has been designated as secreous. Recent of this species are she known from Anderson

of C. Dry sesson firm (which since is represented in the collection). The appearable is black, with white markings. The forwing bears a wide streak, narrow behind and broad and trumested in front, and a large triumpular white soot beword the conv. of the cell. There is also a discrete series of sail appropriate white goods and a postdiscal series of small white mots, but this series is incomplete.

The bind wing been a prominent, white, sub-basel band equally broad throughout, and a post-discal series of equation white spots, well expensived. Discaland authorizing

The underside is normally golden brown, but varying in shade from an ochraceous brown to dark chestral, and with the white markings as on the presented but sharply edged with black lines. On the forewing, the interspace I is shaded with blackered parrow white markings are present, on both sides of the contideral series of scots. The underside of the hand wing bears a white streak on the costal margin at the base and another streek below it. The discal and subternional white lines are narrowly edend with black. The automas, head, thorax and abdomen are black above; the body is dusky

in the Wet season form the white markings are narrower with broader black marging.

Eventue: 50 - 50 mm Stonger Throughout India, Burms and Ceylon. In India, it to particularly obundent

Mobile: This is the commonwel and most widely distributed associated the stores. This is the only species of the genus, in which the underside is a rich golden brown, by which

in gardens, groves and wooded regions. It files in the usual manner characteristic of the other exercise of the errors. i.e., flamming the wing properties and then citizen about gracefully with the wings spread out. It often settles on damp patches of sand, its colour harmoniaes well with the checkered ontierus produced by sunlight and shadows among vegetation.

## Neptis seems kallaura Moore Plate XIX. fg. 8.

Specimens to the collection: One. Putness: 65 rare.

Description: of 9: The upperside is black, with suited white markings, in the Supplied the cell hours a narrow while street accomplate referred at the timend a narrow elements, triangular aget beyond it. The savie in the discal series are few and widely property. The most obscul series of spots are more numerous and close-set. In the bird wing, the sub-based white based is narrow and there is a post-discal series of white spots which is accretions represented only by a pale band. The undenside is chocolate brown. with markings as on the upperside but more indistinct. On the underside of the hind uting the pair discel and subtrauted markings of the upperside are replaced by harrow white bends and in the female, there is an additional terminal white band. The antennas.

head, thorax and ebdomen are black above and the body is dunky beneath. The present specturen belongs to the race kniknon Moore, which is the South Indian race. In Stretam's volume on Butterfiles in the Fauna of British India series, this race is said to be recorded only from Transporter, and be describes another more horsesonal from the Nilgris, Azamakins, and the lalls of Hysours, but Wyster Blyth recognises only one nees as being flourd all over the lalls of South India generally and on the Western Olats, namely, the nees skalsour. The present appeared is being brings Hills. This recoressrables the typical for early olderly, easily that the sub-based band of the lated weight of the latest statement of the latest statement of the sub-based band of the lated weight described hand on the trucersists of the foreverse, are which assumed which they are

#### Emasse: 50 : 70 mm.

Range: The species, as a whole, extends in its distribution, over the Hissakayas, Siblins, Assam, Cachae, Burma and Sauthern Iralia, but the race kalkawa Moore is restricted to the Western Ghats and other hills of Southern India. Another race, obtain Moore, is recorded from the Andaranas.

Habits. This species is much less common than the pecceling one, but is very similar to its lattlet and entireds of fight. It may be at once distinguisted from the preceding a pecies by its much narrower with maximum on the upper abort the wings. This species is found chiefly at low elevations and is locally constron in certain is cuitties especially during the raisin.

## Neptia herdonia bordonia Stell The Common Lescar.

Francisco in the collection One. Majohar 44 mm.

greytels and the abdomen pale orienceous,

Descriptions in the older classifications (Antenna, Bingham, etc.), this species been been treated as a member of the genus Rehinds, but Wyster Blyth has included it in the genus Applia, as the species formerly separated into the genus Rahinds are not sufficiently distinctive as to warrant separation into a distinct genus.

 $\mathcal{C}(\mathcal{G})$  . The uppensible is black, with yellowich orange mechanics. On the foreering, the streak in the cells is nog broadward naturity; and altered between twomen the flower out. The portector row official apera are conjuined, and the naturity, chilquidy also gained earns of specia are also in extractly exceptiond. A post-disease curved pair has near a final classic of specia are also in extractly exceptiond. A post-disease curved pair has near a final classic, transition county for any natural curved pair has the configuration of the label wing beam a classic curve final final county for any natural configuration of the size of the label wing beam a configuration of the size of the configuration of the configuration of the configuration of the size of the configuration of the configuratio

strength defined. The cheerinst ground colour is firstly streaked with transverse brown lines. On the underside of the third wing, the base is tinged with time.

#### Empres 40 - 50 mm

Range: South Indian, Himsleyes, and in fact, throughout continental India, Assam and Dumas, and extending also into the Muley Pentrauls. The race from Ceylon is destinated as attacks.

Makin' This is a widely distributed species, most frequently more with as thirties, founded severa it to waterwistons. On the plains, they are maker excurs, but in the bills of South India they occur up to an abitised of 7000 flost, though in North India, they are consistent to must have developed. The light of this species is much weaker than that of other species of the girtim. They for close to the ground, ofton matting on the giround.

## Gernar Cyrrectic Rejectored. The Map Dutterflier.

This genus includes the so colled Map butterfiles, with the wings portify ornamented with complicated, map-like markings.

 $\mathcal{O}$ : The upperable is white, with the veins block and both wings transversely surrised by fine. Both lines. The foresting is boundly strangular, with the costs a tightly arribed so it me spec matter burstly potented. The terrone is straight and the terrone and arribed and the spec matter burstly potented. The terrone is straight and the terron obliqued trumcated. The document is slightly affectives. The real when the terrone is written to the value of value of the value of the

arched, and the spex frameated or rounded. The termen is could post and produced into a well marked tall at vern 4. The terms is slongested and produced into a broad, tornal blob. The body is skeried, and the automatically gradually estimated.

Of the two indian apecies, only one, Cyrestis thyrologues which is found all over india.

suchading Southern India, is represented in the collection by the typical Indian sec. author Braze. The other species, C. cooles is confused to Northern India (Bhar. Orinos, Statum, Assenti and Burnes.

### Cyreetie thyodamae indica Evane. The Common Map Butterly. Plate XX, fig 1.

Specimens is the collection Power, one from Wysseld, one from Pulseys, one from Congrand on from Netherith240 Rights, fishisked Power, Tunzierhell Datts (collected by Prof. Barron). They did belong to the typical form designated on ness incline Dones, to desirguish if one to mee from the new front of the Andersona's (contentions Wood-belond, of it man. The largest spectages in the collection, 167 mm.) is 7 mm. largest than the machine machine to the collection of the collecti

Description: of \$\tilde{\text{\$2}}\$ - The appendix is wide, with the wires balls. The wings are formal proposed before the appreciate of the size of particular formal proposed before the appreciate of the size of particular formal proposed before the appreciate of the size of particular formal proposed before the appreciate of the size of t

### Екрами: 50 - 60 mm.

Range: All over continental india (except in the hot day plains of Central and North India). Himskyns. Som as far west as Kashniri Assem and Burms: Western Ohnes. Travessore, Coop, Wyssest, Nigiris and Pulsey Hills. Extending east to China and Japan.

Makin: This is a well known and widely distributed species of the glorar, analy, recognized by its characteristic incept, the markings, in sight is nother weak and irregulate and is often judy and ematic. When it real, with its wings preased fire against the under surface of foreign in the markings and of these exclusions will will be surroundings and thus excepts notice. This appoints often settles on dump publishes of read and frequested the britishy of streems and the continues of the continues of the surroundings of the continues of the con

#### Genus Rypollemas Hoboer.

This genus includes bright coloured batterfles popularly known as the Eggliss. There is considerable total/signal variation. Some species mingle species of Danaids very closely. On of the most striking features of this genus is the remarkable difference in colour and colour potterns between the male and the female.

g<sup>2</sup> Q. In the forwaring the coats is well arched. The spex is broadly rounded and the formen is adjuly concave. The domain is straight. The cell is rather short and closed. The latest wing is very broadly coats, with the coats arched and the tenses convexty curved and scalingood. The domain is also arched but slightly seconsisted above the tenses. The nections is rather where the wind was added weight and againstify collapsed.

Only two species are recorded in India, although more species have been found in the Assituate Makeyon Region. Both the Indian species are represented in the Museum collection. These two species are very contrain and are distributed over a wide range. The Danial Region (R. Indianus) is the species that is more comment, not with in the coon plains. The males fly fast and are often found visiting flowers; they love to beak in the sunahine.

#### Plypolimnas belina (Limneus) The Count Earthy

#### Plate XX, for 2 & 3. Specimens in the cellection Four, males: Madras and Baratelore: four females:

Medina and Nilgria. The make are strikingly different from the Semales: 90 mm.

Description of a The unperside in black. On the Scowing there is an eval indescent blue patch on th discal area, centred with white and transversed transversely by the black wins. There is also a small, pre-apical white paich traversed prominently by a block win and a post-discal series of minute white data. On the unperside of the hind wine, there is a central, large, coul, iridescent blue patch with a broad white centre and

The undereste to brown, but there to no prominent black costal and. On the underside of the forwing there are a few small white spots above the cell and an oblique discul series of and white spots. There are also two pre-upical white spots and below them a series of retruste white spots in a curved row on the outer side of which are a double row of authorizonal bursate white mosts. The undereide of the hind wine bears a fairly broad white discal band, and a post-discal series of minute white spots. An inner subtriminal usie white band, and outside this, a work dark line with a subbroughal parrow white line

 The presentate to dock houses, but notes became towards the outer marries. There. to an outer diseal row of small pale yellow or white spote on both wings. On the upperside of the Scenting there are a few bright like easts about the usage marris of the cell and on the costs) margin. A post-discal series of white spots are present followed by a subtercuteal series of white markings and an outer series of white basulate strucks. On series of broad, D-shaped continuous white marios and beyond this, an outer subtermiral

The underside is dull brown in the forestor there are three small greateb spate within the cell and the discel band is dull white. The terminal markings on both the wings are as on the unpenside, but the bind wing bears, in addition, a faint, greateh white discalhard in the Smale of the dry season from this band may be entirely absent. The Smale is a missic of the crow. Butterfly, Earleen core core, but may be readily distinguished from the litter by the broader wings and the concave termen of the forewing and the scalinged margin of the hind wing. Expense : 20 - 110 mm

\*Ranger Throughout India, Burms and Crykes, and extending to the Malayan autoration and to Australia.

Habits: This is very common species abundantly represented in the wetter and more densely wooded parts of India. It is particularly common during the moreone. It is widely distributed and is found occurring throughout the plains and up to an elevation of 5000 feet in the Mills.

The makes are very prettily marked and ily very activery in bright esmalates cheating other butterfiles, and eften bashing with wings speed out in the surveitors. The femaless more abovely than the make and is generally found clove to the ground studies in ferents, growes and gurdens. The females are seen as frequently as the makes. The fend starts of this conceive are low greater hands or for females. The fend starts of this conceive are low greater hands or for females. The fend starts of this conceive are low greater hands or for females.

### Hypolimus missipus (Linnacus). The Densid Eggly.

Plate XX. figs. 4 & 5. Specimens in the collection: Plays, there makes and two females: Medicas and Niletrie:

Description of The respective to black. The proposable of the forester bears a

white, transversely oned decel patch, and a pre-special enable spot, transversely designed, Both spots are surrounded by dusk influencer black horders. On the dust was been a much happer and more rounded with spots, strately surrounded by an influence black horders. On this dwing been a much happer and more rounded with any patch, strately surrounded by an influence this become and a formation and the more than the surrounded by an influence that happens are to be a surrounded by an influence that happens are the surget in a information particle within any black.

On the understake of this forestic, the volta spots are no cell to appreciate to happe decispate in bothery at least factor. The other spots are not the suppreciate to happe decispate in bothery at least factor. The other spots are the sense of the resign to decis, the other bown. To the sense of the velocity is decis medical, became, but the sense of the velocity is decisive and other spots and consiste this, a double nor of integrant branks are though. The understate of the opinion and consiste this, a double nor of integrant branks are though. The understate of the least the spots are decisive the spots and the spots are decisive the spots, and beyond the activation of the contraction of the spots are decisive the spots, and the spots are decisive the spots are decisive the spots are decisived to the spots are decisived the spots are decisived that the spots are decisived to the spots are desirable contracted double over decisions are not decisived to the spots are desirable double of the spots are decisived to the spots are desirable double over decisions are decisived to the spots are desirable double over decisions are decisived to the spots are desirable double over decisions are decisived to the spots are desirable double over decisions are decisions.

#### The body is block above and aported with white below.

Q : These are polyrocephic, at least three forms being recognized, and these mimic various species of Daniels. The typical form very closely minutes Daniels chrystypes from which it may be distinguished by the margin of the hind wing being more ways and the uncernited of the hind wire beauties a procuring of the hind with peating a procuring of the hind with peating a procuring of the hind with peating a procuring that contails profit interrence? That are a procuring of the hind with peating a procuring of the peating and the peating of the peating of



- PLATE XX
- Fig. 1. Oprovio shyodomos Indico Evans (x \*/\_e).

  2. Hapolinuos bolina (Littricus) (main. x \*/\_i).
  - 3. Hypolinenas bolins (Linzaeus) (female, x 1/2).
  - 4. Hypothenus missipus (Linnaeus) (male, x  $^4/_a$ ).
  - 5. Hypotherms retroipus (Linnerus) (female, x\*/,1.
  - 6. Kolilms inachus (Boleduval) (dorsel view, x \*/\_).
  - 7. Kolling inschar (Boledavel) (westral view, x 1/2).



of the three of four global species as in Dannie draphyspas. The upperside is a rich terrory video ran die universide is paint terrory police. On the Developing, the costs, a spiral oran and the terrors are black, the remaining own being a rich redshib brown. As obliganous and the terrors are black, the remaining own being a rich redshib brown. As obligaters and the spiral resolution with a spiral lazardate manifoling. The upperside of this black whige is redshib brown with a doubty broadted and in Intercopers, The upperside of the black whige is redshib brown with the doubty broadted and intercopers of rand of the treated spirals black, manufact with a doubt broadted with a doubt broad-

The undereddes pake, but the markings are much the assume on the uppenside. On the underedd of the foresting flow white spots are greater just below the costs on the underedde of the basel whose just have been given by the costs of the cell. It is this typical form their to represented in the collection by two spectrers. The other two lorms of the forms are very now.

Except the part of the collection by two spectrers. The other two lorms of the forms are very now.

### Roase: Throughout India, Burma and Crylon, and even extending to the Malayan

South India and Carlon

ubregion and Chira.

Makits: The makes of this species are more commonly seen. They fiv much closer to

the ground and settle brequestly on trees. In the Nightle they are absorbed to the velocity of Cypens trees. The formide minted beautiful of the velocity of Cypens trees. The formide minted beautiful objects of velocity and the common in the wester part of the country speechally during the monosom. They are found up to an elevation of POOD feet in the tills of footil todds. In the Himslayes they extend we to an attended of 1000 feet, but are not common above 4500 feet.

### Gerus Kallima Doubleday.

This games technics the butterflars popularly income in the Oak Leef and Does Leef furtherm. The fevering is brought training, the costs being brought arother and termine delique need breedly excessive assumed above. The sport is across and often produced. The downs is algoly concern. The hald wrigh a large, more chapping transpales, with a boosdy transpale element, and Oblively sugailated sport. The trims is produced to the consideration of the contraction of the

The underside of the wings of these butterflies are dell coloured and beowrath. reambling day, deed lower which these butterflies intends remarkably well when they all with their wings closed over their leads, exposing the underside of their wings.

Two species. Koftens hashes and Koftens philarches are represented in the codection. The former is the Orange Oak Leaf or Dead Leaf butterfly found all over India. from the Hunshows as far south as the Godward while the Blan Gak Leaf is confined to

# Kallima inachus (Boisdaval).

## The Orage Oak Leaf.

Plate XX. figs. 6 & 7. Specimens in the collection Three . Eartern Chairs: but their exact locality is not

Specimens is the collection Three . Eastern Ghain but their exect locali recorded: 90 mm.

On the underside, there is a possioned dark brown lite running continuously from the spect of the forestig to the apex of the tail, remarkably sizualising the midrith of a dead last.

The apex of the forewing and the tensus of the lated wing are narrowly produced to strendate the theared at tensof the dead last. This feature is convenient to the feature.

sizzalate the tip-and stem of the deed lead. This feature is more well marked in the female and in the day season form.

The female is larger than the male, and generally of a more reddish shade on the

underwide

The above is a description of the day season form which is the typical form. The well-season form is very stantage to the above, but is durker and seasing.

Expanse : 65 - 110 mm.

Range : Throughout the Himaloyse, as for west as Kashmir at low-elevations : Assau.

Oriess. Eastern Obsts as for south as the Sher Codesart. Also in South Bibar and

Habita: I This species is found in regions of heavy statistic and at sudernizely law elementate in two soles. (100 year) in the Unandpus, it asserts up to 1000 per. In this per species is profit better served streaming.) This way do not distance and series for some inspection of a period better served streaming. It is supported with the stream of the served with the very although one of the served streaming and the served streaming the served s



## PLATE XXI

- Plet 1. Kultura obflorrius (Westwood) in \*/ 1.
  - Precis hieria Aieria Pabricius (male, matural eize).
    - Prects Meriz Meria Pabrictus (female, matural abe).
       Prects sytthus excluded Budler (netural abe).
    - 5. Precis lementus painya Probatorier (x 1/4).
      - Precis lemenius natnya Frahatorier (x<sup>3</sup>/<sub>a</sub>
    - 6. Prects almana cimana (Limnerus) (x \*/ ¿).
    - 7. Precis atilites (Johannssen) (x 1/4).
      - 8. Precis iphita phoistilis Fruhetorier ix  ${}^{1}/{}_{a}\lambda$



# Kallima philarchus (Westwood).

Specimens in the collection: One, Nilpiris: 90 mm.

Description: The storie specimen in the collection is inhelied "Kalling philarchus horsfield?. But the name harsfield is a synogym or philosobus Wortwood, and not a securate race of philorohus. The present species is described under the page Kolling horafield! Kollar by Bingham in his volume on Burtlerflee in the Feura of India series, and by Antesm to bis "Dutterflies of India".

Description : of Q : This species is very similar in the shape of its wings and colour markings to the perceding species. The upperside is indico biutab, but fixed to a dull dark brown in the present spectmen. The forwing beam a broad, pale blue discal band which becomes whiter and brighter anteriorie. Above this, the notical area is black with a counterest ore-opical white spot. A small transferent white spot is present in intervence 3. The upperside of the bind wine is uniformly dark ochracross brown. The coatal and annual reaction and the abdominal feld are make brown dusted with dark scales. Both fore and hind winds been a dark brown subterminal riging line. The underside to us to the recording exercise closely record/dust a dry leaf. The resemblance to the dead leaf to greater in the dry season form to which the above description relates.

In the wet-season form, the pole discal bend on the forwing is uniformly pale blue, and dose not become white anterbyly.

Emprese: 85 - 113 mm.

Parent : Coulon and South India: south of Southers to Western India.

Habits : The bubble of this species are very similar to those of the preceding species. It is confined to the Mistrie and matern side of South India mouth of Boston. It frequents bills and wooded regions at low elevations. The food plants of this butterfly are executes of Strebilizations.

#### Genus Presia Moore

(Sypermus: Jenenda HCtoor). This serves includes some of the most recitle consequented butterflex constants known as the Parates. They are moderately small and are of varied colours, blue, vollow and becam often trenformentalities. A characteristic feature is the treasure of eventlie and a tocell() on the outer discal area of both the wings.

obtusely angular. The termen is straight above, strongly concave in the middle and

obliquely engults below. The domum is straight and the tormus rounded. On the bind print the create is which seeked and the every rounded. The termen is broadly recorded and allability scallegged. The torsus is eligibly produced into a bank-like projection. The cell in committe both the sature. The antennas are about being about builtibe lesson of the foresting, with the club flattened and abruptly enlarged. The species included in this group are subjet to considerable variation. They are

among the most abundant of Indian butterlies. They are found to all types of country. except at high elevators in the hills. Their flight is powerful and fast, often close to the ground, and consists of a few quick strokes of the wings followed by a glide, with the wines held buringetolly.

The Museum collection of butterflies of this occus is very complete and recessed attack. About six species are known in India, and all these are represented in the collection.

# The Yellow paner

#### Plate XXI, figs 2 & 3. Secretarion to the cultertion Seven, Polymor, relately and Madray, 40 resp.

Description / of O : The upperside is bright vellow. On the forested, the costs. the spex, doesum and tornal area are dark brown. The spex is almost bleck, bearing two transverse, velicer, pre-apical markings. The costs and termen are parrowly bordered with black. But discal could are removed to interprete 2 and 5. Those are connected to the in the female, but often absent or faintly marked in the male. The upperside of the bind wing is written with the hare, over and contained arous broadly black. The black based area bears a large prominent oval glossy bright blue patch in the centre. The size of the patch is variable. The terminal hunder hears three narallel assessing undulated, the black lines. Sometimes, amail, pale discal ocelli are present in interspaces 2 and 5, but they may be reduced or absent. On the undenside the forester is note vellow with its cell traversed by a fine black line. A short black bar is also present in front of the apex of the cell. The underside of the bind wine is greaten, with a discul, and ulating brown have end a subterminal wavy brown line. The post-discal spots are mirrate and sometimes absent.

#### with brown on the underside Expense: 45 - 60 mm.

In the female, the colours are, on the whole, duller on the uncereide, but more motified Ronge : Throughout India, Burna and Crylon. The present race, kierin, is the

Habits: These are very common butterflies found practically every where. This and the real appring are perhaps the recet abundant and mostly marked of all hodius butterfiles. They are most common on the piotra, in dry regions and at low circuitons They frequent het and surruy pince such as open river bads and dry wasts land; they also frequently settle on flowers in gardens. They are very active and wary leaseles, and hance difficult to easie. They become never in freezh and on the hills at higher elevations.

# Precis crithys awishool Butler. The Blue Paper

Plate XXI, fig. 4.

Specimens in the collection Twelve, Medine, Trivassirum, Niigiris, Myscee and

Burgainer 40.5 mm. The analisst specimen (35 mm.) is 5 mm. analist than the minimum recorded expanse.

Description: of 0: On the uncerside of the forestant the basel two-third is let

black the signed area is pick brein with an oblique decad which hand and a post-discolwattle hand interrupted by a black coloris, nearcheal by publics. Another yellow-right black cooling with a black cooling is greated below this. The toward sees is highly glossy black. The horist way to being the law, tabelow this black in the hare. The terminal books is wight with these closes set ways, the black itsue. There are two could, a large whitecortinal and black-trigged coloris in interprets 2 and a seasified, white-could be could in interprets 6, the histor many scentimes be absent. The turbership is turbe delicer and including colorisms in the heart.

of the foresting, the cell area is transmed by three block-edged, broad, congapy-time bands, with a broad, just been beyond be observed by three block-edged, broad, congapy-time bands, with a broad, just been beyond becodered by a blockboil into. The valentistic of the high wing is mortised with white and broad. A firm, uncluded discust transverses into and a post-discust broad, broad towns and with a sartise of Stating method apoins on present. O . This is actually, the sartises, but leaver and with the coefficient confirmation of the sartises of the sartises.

dedired. In the female, the whole based area on the uppersate of the hard wing is black.
This species is subject to considerable seasonal variation.

Expense: 40 - 90 mm.

Range: The range of the whole species is throughout India, and Ceylop, and also extending to China and the Malayan subregion, but the present race, authinor is the fourth Indian race.

Hobbs : This is one of the commonest and most prettly ornamented of Indian butterline. Its habits are more or less similar to those of the preceding species.

# Precis leasenies velsys Fruhstorfer.

The Lemon Parsey. Plate XXI, Sr. 5.

Specimens in the collection  $\tau$  Three, one from Medrae, one from Nilgicle and one from Trichen: 52 runs.

Comprises: of § 1. The customists is that other brown. On the Browning, the cells are surrounded by the case, all the customists of the case, and the customists of the case, and the customists of the case, and the case of the case of

The undersole is yellowish brown, with the wings somewhat motified and traversed by undo his ting bands. The underside of the forewing boars a large, black cooling encircles with a pale ring, and that of the hisks wing occurring beauty a leaves of apole in the postdiscal dark band. The present race, soley a Fruhstocker, is the South Indian form.

Expense / 45 - 60 mm.

Range : The range of the species as a whole extends over the Himsiapus, Assess. Bragal and throughout India. Also Burma and Ceylon. The present race, however, is confined to South India.

Highlit: This species can be easily recognized by the numerous lemon yellow spots on the forewing (upperside). It is more commonly found in wooded localities, and in the hills it is found up to an allitude of 8000 feet. It is common in gardens where they decreased with finances.

Precis almana almana (Lizznesus). The Puscock Panay. Plate XXI, fld. 6.

Spectrous is the collection - Eight, Nilgris, Trichur, Bungskov and Godssur! 55 mm.
One of the spectrous is incomplete, with the right forester multilated.

Description: of 9: The uppensible is energy-price or light leavey breese. On the uppensible of the Serverit, the cell and the cental was beyond the miss pace (of the weight are crossed by Sear about dark hand, the transmiss of which is strictly in the forms of a doubtle-lead. A growing of the control of the strictly in the forms of a doubtle-lead. A growing of the control of the control of the transmiss of the control of the control of the control of the doubtle transmiss between the control of the control of the doubtle transmiss between the control of the doubtle transmiss between the control of contr occupying intempaces 4, 5 and 6. The centre of this centre is radial; bown towards the traitie, with two small white spots, and blockish trends the coinside. There is also a small, blast-ingup certain below this is interpreted. The training lines are an one upperside of the forwards, The hind wing bears a distinct, tall-like protruberence at the certain.

the commence of the processes were vegenated contenting and in remarkably leaftile in a paperamen. The trackings are more or less as on the upper surface, but masch paler. The could not surface and paler. The couldn't is interrupe of 5 on the underride of the third went is much resulted tent the corresponding large couldness on the upperadic, and its ring cruckness a much sensitive couldn't interrupe and the couldness of the country of

above and yellewish beneath.

The above description pertries to the dry assess form to which the specimens in the collection belong, in the wet assess from, the forwing is not preduced and the hind wing is also not suded at the terms. The underside of the wings is also more prominently contained and the left life as in the dry research from.

### Expanse : 60 - 65 mm.

Storge: The range of the openies as a whole extends throughout india. Ceylon and Burma. The present more is the typical southern form found in South India.

Hability: This is an extremely common species, with great essected varieties. The difference between the verbrue actions assected forces is so great this fibrarily the year treated as distinct species. The day assects from harmoniase very well with its accurately, when it settles exceeding day, fillen between with the understand of the wings accurated. This species is most common on the plates but accorded the falls to an altitude of 4000 feet. It is nowtherwise consone in precises a sweng Dawers.

#### Procis etilies (Johnness). The Grey Pross.

Plate XXI, fig. 7.

Specimens in the collection z. Five, Cochin, Wymand and Trichur, 62.5 mm.

Description:  $g' \in \mathbb{R}$  in uppenation is pair gay or inversity because with utility graphs become materials. On the feature like and of these time transverses unfulfacing similar likes. Beyond these practices will marked be larger, and only the similar continues the similar of continues and material than a similar continues and material than a similar continues and continues

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towards the inside and block towards the cutoids. These is also a faint, loop-like mark at the apex of the cell, composed of two slenders, curved, black parallel lines. The underside is palser, with markings more or less are on the upper surface, but very faintly marked. The fenselse are larger, with the saukings larger, heavier and more distinct. The body is got places and without below.

### Expanse : 55 + 65 mm.

Range / North East India and along the foot of the Himslayas, Bengal, Assem and Selection Alon in the writer parts of the Central and Perinauther India. Burnas, and Coylon. (Bolton: This is the least concentration gives priceled of the grass Profest. This appetes in combined to regions of heavy matchill and occurs at low elevations, along foothful and accused manafest places and match 1964s. It is baseling consuming control locations on the

Precia Iphita phrviatilis Pruhetorier
The Charolate Penez.

## Pinto XXI, fig. 5.

Spectrums in the collection: Ten, Cochin, Pulneys and Madrac: 56 mm.

Description:  $g' \in \mathbb{R}$ : The upperside is brown, with obscure, transverse markings

Exception: Q | . The appointed to been with choices between smokingling beginning and properties of the properties of

### Expanse : 50 - 90 mm.

Range: The range of the species, as a whole, extends throughout india, and over the Hinakayaa se far west se Kashnir, Coylon. The present men, plantaille Fruhetocke, is the Southern rece, continued to South halds and Coylon. Makitz. This is one of the most dark coloured species of the girms and may be easily ecoglated by in more or less suither dark leaves colour. It also exists as begar set than most other numbers of the girms. It is not usually found on the plates, but is very common in the more thickly worded parts of the tilds bearing plately of middl. It leaves shady pieces and may be often found in other products of increase or among low registration. The food plates are species of Silvedestation.

# Genus Vaneses Fabricius. This group includes medium eited butterfiles with brightly coloured wings, popularly

section as the detained and Techsie-shills. The superaids a generally black or deek boom with an oblique campie-red bard occurs the forevering, of one partiago-bask with black band or reddish between with black spoke. The understife is much dislier and protectively obturned. The samples of the single are unserved to many spokes, the towards as the samples of the samples of the single are unserved to many spokes. The samples large large large section, the spox of the foresting produced and the black wing produced sizes a corticulate or embertion at the terrestration (size).

 $\mathcal{O}^{-1}(\cdot)$  to the forwing, the costs is slightly scaled and the apen is either rounded preclused. The trems is removed is tensor in the ass catalogued. The trems is rounded. The cut is other short, being about half the length of the forward,. The latts wing is more or less transparks, but accust times irregards, the accustance integrals to cutties. The costs angies with the trees min an even cutve. The accustance have shown to exclude a very dependent of the first part and the cost of the

These butterfiles frequent open, thirdy furnated country and may often be seen flying about unsteadily in the surabine. Their flight is irregular and jurky, and when they settle in the ground, as they do frequently, they open and close their wings alternately. They statt flowers in the gardens regularly.

visit Sowers in the gardens regularity.

About a dozen species are known in India, but of these only three are known from South India, All these three, and in addition two man species, one from Balachistan and the other from the Binaukova are recreased in the Massacra collection.

#### essa cardul Linnsons. The Puinted Lady.

### Patented Lasty.

Plata XXIII, fig. 1. Assertiones to the collection / Pice, Monore, Gorlanary, Pulpers and Madrae: Sti run.

Description:  $\int_{-T}^{T} \Phi = 1$  The upperable of the whigh is reddels with death brown markings. The base of the Forestip disotaly black, desained with glotten-coloured section. The a pixel a ereo of the foresting is death become not been a short white but entending had any down from the cost and allow a service of per-agion white peaks. The upperable of the hild whigh bases a section of post-diseast, resurried data! become specia and a subtransitiation of the cost of market section. The upper and the subtransitiation of the upper and the subtransitiation of the upper and the subtransitiation of the violation are subtransitiation. On the upper and upp

On the underside, the forwing is paler, with the terminal margin bearing white lines and the hind wing sectied with dark brown and ochraceous markings, and bearing a post-discal series of blue-centred could with black rings. These are followed by a series of revs leastless markines traveals the terminal broder.

The autoruser are brown, yellowish towards the apex, and the head, thorax and abdomen are ochasceous.

Exposer : 55 - 70 mm.

Roope: Throughout India, Bureau and Ceylon. In Sect. It is world-wide in double-tion.

Maker: This is one of the occurronest and must whiley distributed species of the grown Venezon. Submedies of this species underlates have surgitations and by grown the contract of the species of the sp

#### Vanceus Indica shoke Probatories.

#### The Indian Red Admiral. Plats XXII. Sr. 2.

Specimens in the collection Two, one from Pulseys, and the other from Coorg. 46 mm.

Description: This species resembles the preceding species is general appearance, but
the ground colour is decker, with the orange markings much richer and duries in tone.

 $d \in \mathbb{R}^n$  . The opposite is dearly black the forecast passes an compare of these passes of the second passes o

Educas : 20 - 02 IIII

Sunger: The range of the species, as a whole, extends throughout india, hills of South India, Coorg, Himsleyee se for west as Easkmir, North East India, North Suma and

Ceylon. But the present roon, phoise Prohistorier, is the South Initian roon.

Highlin: This species is one of the commonest species of Vanceson inhabiting forest as seed as open country. If frequently settles on the ground with the wings had open marks in the same way as the concentration of the forest settles on the ground with the wings had open are forest to the common way on the concentration of the forest settle intended to fineware are

overripe first. The species Vancesul fields is represented at moderate elevations in the Hinaloyse as well as in the hills of Ceylon and South India, but as mentioned above, the uses pholes to which the speciators in the solitection belong, is confined to South highs.

### Vancesa utalanta Liraneus.

#### The Red Admirel.

Hate XXII. fig. 3.

Specimens in the collection: / Two, probably from Behachistan, 62 mm.

Description: This species is easy mm and in a European species. Income only from

Backeristan in the Intains Region. It is very strains to the proceeding species, but differe

from it in the red, oblique bend on the uppecasion of the forward plaing marrower and not

bricken up. The tennical company and booter on the superside of the hist strain is also

slightly broader than in the proceding species.

Expense : 55-55 mm.

Vancesa canace viridie Evace.

The Place Admirol.
Plate XXII. Sr. 4.

Specimens in the collection: Four, South Coops and Nilstria, 60 mm.

Description  $i \in \mathcal{C}^1(\mathbb{Q})$ . The upperside is dark indigs-blue. The upperside of both the using bears a broad, pair blue post-discal band. In the foresting this band topers and curves curiouris towards the spex, while in the bind wing this band is comparatively broader and bears a series of black spots along list outer border. On the forewing, a short,

broader and bears a series of black spots along the outer breaks. On the forward, a short, oblique break that ber is present beyond the expect of the cell. The terminal better in both wings bears on undelating black itse. In the fenals, the post-discal band is breaker than in the main.

The undersaids is brownish block. The beast half is very dark, and this area is defined.

culturately by a wavy black lim. The translate arous of the very tarts, and the size an internal other contents of the wavy black lim. The translate arous of the wings are pair. The apax of the downing is pair brown, and below, this pair brown area is continued as a broad, irregular discal band to the dersum. The whole of the under surface is metited and mustand densely with dark. The streaks. A small erresney prime apoin is present at the spex. 159 Bulletis, Madras Generous Massas [N.H. VE, NO.1 of the cell in both the wings and along the dorsum near the tornal angle of the foreving

or use cot in soon use wangs ann axong use correction must use correct an appeal or the interesting. The terminals mangin or fittle irregular and presents a somewhat earliepped appearance. The terminal imargin of the wing is deeply excessived and that of the bird wing is produced into a prominent tail like projection about its middle. The antennee and the abdomen are black and the bead and the thomat dark blue.

### Expense : 60 - 75 mm.

Range: The range of the species Vanessa consas extends over the Himsleyns, Assam,

recorded expanse for this species.

Sijkkins, hills of North East india, Burnse, Ceylor, Southern India and the hills of Coorg. But the present race of old Powns is the Southern race confined to South India.

Habits? This species frequently well secoled localities in high districts of the country, the turnoily front oner streams and whiche. These butterfiels generally settle on damp profites of ground end on rocks and stones with the wings half closed. They are also strained to brease, therever and fig paths. Butterfiels on the species VC canasce are found attracted to brease, therever and fig paths. Butterfield on the species VC canasce are found strained to the second to the species of the species of the species of the species VC canasce are found facilities of the present man, skills Edwar, and confined to the Mills of Coopy and Southern todds in general, where they are generally facilities allowes an attitude of 4000 feet.

### Vanessa C-silvum cognata Moore,

The C-Marked Admiral

Plate XXI, figs 5 & 6.

Specimens is the collection: There 50 mm. Their exact locality is unfortunately not recorded. The wing expenses of these specimens is 5 mm. Smaller than the minimum

Description: of § 1 the appends in dark principals and a comploming pattern of below contains. On the fewering the coll beaut to report and there is a basic born beyond the agent of the cell. There is also a pre-spicel learl and till cree bear in part of the cell. There is a basic a pre-spicel learl and till cree bear in part of the cell. There is a pre-spicel learl and time bear in part of the cell of the cell

The underside is dark brown, wategated with various shades of brown and duated with fire litros and minute dots. On the underside of the hind wing there is a way characteristic, while, sharply defined, C-shaped mark below the lower apox of the cell. On both wings, on the underside, there is a post-discal sorter of greenish hunde-like markings in the hydrod form of the speech, with those hundes are finish in the persent



PLATE XXII

### PLATE XXII

Fig. 1. Vanessa oardat sardat Linnseus (x 7/<sub>4</sub>).

2. Vanezza indica phoiae Frohstorfer (natura) sips).

Vanessa atlanta Litzneras (x²/<sub>a</sub>).
 Vanessa aspare stridis Rouss (x²/<sub>a</sub>).

5. Vaneuro C-album cognota Moore (dornal view, x 1/4).

Varience G-album cognula Moore (scattal view, x <sup>3</sup>/<sub>4</sub>).
 Argycrate Appendies hybrida Essas (male, x <sup>9</sup>/<sub>4</sub>).

Argyanis hyperbias hybrida Donne (female, x \*/ ¿).
 Argyanis hyperbias contetal Obertius is \*/ ").



veriety (cognata Moore). The margine of both wings are shaped more or less as in the preceding species.

The show description pertains to the wet season form which is the common form. In the dry season form, the ground colour is paler on both the upper and underside of the winn.

The spectmens in the collection belong to the worlety agenuin Moore. It diffics from the typical form in the two median black spots to the cell of the foresting being more or less cognuts, to the extendal black margin of the hind wing being moreover and the launds-like markings on the underside being time having of being streemed.

Espanse : 58-62mm.

Habits. This is a mither uncommon species confined to wooded country in the Hisasleyes. Its habits are more or less similar to those of the preceding species.

#### elegens. Its habite are more or less similar to those of Genue Areymais Fabricias.

This genus includes brightly coloured butterfiles with black spots, known popularly as the Fritillantes. The uppensions of the wings are bright townsy velowish with numerous rows of black spots. The underside of the little wings bears allerny spots and crescent-should write readings with back spots.

The flowing bown a round spec, straight transac and widely archive orists. The document is also restlice. The cell is closed and slightly has not hand the length of the wing. In the shad wing the spec is recorded and the costs straight obergie at the bown where it is augular. The terms as it becomes the rounded and cells open of the sangers. The unineases are either elect-it with where, showing breaking close. Almost did the species are concluded to the Terminous and see found in Section (4.1). Almost did the species are concluded to the Terminous and see found in Section. Copy loss species, the Soils of Terminous, etc. at face high electrostices. They are all seasoftship that species, only one species, the Dairs of Terminous, A. Species, is formed conceivably the large bases, and the last the only from their sequences.

represented in the Masseum collection.

The heidth of these butterfiles is among the grassy slopes of the Himshipun valleys, when wild discrete abound. They are found of these butterfiles and head for quartity granty doubt, and opening their wings alternately. Cases of melenism between the markings are discreted are consistently multiple file.

#### Argentis hyperbias (Johannson). The Indian Pritilines

Two proces, A. Auguerbase Aptrolis Evans, and A. Auguerbas castetor Oberthus, are represented in the collection. The former is the typical form common allower fourth india.

while the latter is a local race confined to the plains and hijls of Travancors and Coshin (Pulpey Hills, etc.).

#### Argymnie hyperbius hybrida Dearn. Plate YXII for 7 8 6

Specimens to the endertion: Two one of these to a female, from Consour. Miletria, and the other a maje, the exact locality of which is not recorded; 62 runs. This is slightly amazer than the minimum recorded expanse.

Description / C : The appearable is toward congre-vellow with a pottern of black markstrate constating of a based and, and two transverse attends to the cell, a statute series of discal spots and another series of spots in the post-discal area. There is also a fairly complete and remain series of linear, authorities black aucts followed beyond by a

subterminal line and outside this by a fine terminal line; the subterminal line is rather broken up and made up of a series of transversely extended spots. in the hind wing, the cell bears a transverse streak and a small spot at its ages. A short streek is present near the base of interspace 7. There are also a discal row of five anote and another post-discal way of the excita but these excits are commuted amallar than those on the forestors. Finally, there is a subterminal over of somewhat slopests.

effective black areas followed beared by a narrow black hand benfored estable by a new of lumiles of the ground colour (these lumiles becoming blaish posturiorly) and a On the undereide of the forestop the spex is willowish green, with a series of allowy

the centre of the area enclosed by this circle. The other markings are more or less as on the conversitie. The board over to ministely and. The condensate of the bind wine is liable brown or greenish brown towards the outside but dark green towards the basel area. It is marked with allowy white and other brown areas, some of which are bootened with sharply defined black lines. The manufaul markings consist of olive brown spots bordered on the custable by white hundre, a fine, black subterrated line and fine by a terratral black

? The markings are more or less the same as in the male, except that the apical half of the forestrat and the terrotral burder of the bind Wins are purplish blue with white hands, and on the forested, there is a proportional children rose arises white band and some small bluish white spots to the dark apteal area beyond. On the underside of the hind wing, the markings are durker and broader than in the make.

#### Expanse : 65-85 mm

Range / This is a widely distributed species occurring in the Himsleyne, North East Indie, Burms, Beluchisten, Cevico, Saurashtra, Mount Abu, the Mistrie and the hills of Southern ladie. It has also been specifically recorded from Larkyres and Timobire will

alternately.

Hubits: This is necessally a species frequenting the hills, but is occusionally found in the plates. In the Himalayus it is generally found at an altitude of 2000 to 3000 feet, In South India it is common in the hills, frequenting ones country, curdens, meadows and ercharts in the hill regions, above an altitude of 6000 feet. The male files fairly rapidly, but the female is much abover and above some resemblance to Dunais chroateous owing to the presence of the white oblique band on the forewing and the block markings. These butterfles settle frequently on the ground, when they open and close their wines

#### Arconnia hyperbon content Oberthür. The South Indian Fritiliary.

### Plate XXII, fig. 9.

Specimens in the collection: Three, Pulseye: 70 mm. The emaliest spe 52 mm, which is 4 mm. less then the minimum recorded expanse. Description : d 2: This more closely resembles the typical more described above,

but may be readily distinguished from it by the fact that the female is without the characteristic white-banded purplish blue open of the preceding form. It is more or less similar to the male but with a conseveral derivated apical area. In the male, the upperside to a righer and heighter county, willoward there is a consert-own any mark of anotheliand scales along the middle of vein 1 on the uppendile of the forewing.

Eventure : 66 - 76 mm

Rance : The chains and hills of Cochin and Travancers, Poliners, Southern India Hobbits: The hobbs of this race set very similar to those of the twoical race described

Arryania selais (Utroseus) The Kashmir Silverstripe.

Diete 2000 for L meetings in the collection : Two, a main and a firmale, 56 may. Their exact locality is not recorded. Both of them belong to the typical form cliathe Moore.

Description ( ) of 9 - The uncertaint is transpropriate, with block spots and specitives. and the basalines of both the wings is somewhat darkened. The cell in the foresting bears a median icco-like mark and a short, transverse pre-apical line and another transverse line at the apex of the cell. There are also a discal rig-ray row of spots, and transverse post-discul and subterminal series of spots. A short subcostal black on ich in interspoce 6 and a terrainal narrow black hard are also present. The unpreside of the bind wind bears a broad black line at the agest of its cell, and a necross-discal band which is strongly produced and angulated outwards about the middle. Beyond this there is a post-diseal series of the black opens of which the middle one is reduced, sometimes almost minute. The authorization series of elliptical spots and the terminal narrow black band are discussed as on the ferminal.

On the sustinestics of the favoring, the ground colour is severy brown, foling throps, billion travends the separa and cross. The Most harshige are some cleans as the supportion, but these means the ventrales and spical samples are greated. On the supportion, but these means the ventrale sears as endedlered by the press. The ventrale sears are sendedlered by the great. The ventrale sears are sended extracted and the press of the ventrale sears are sended and the great and the ventrale sears are laboral search as dealers are search as the search and the search as the search and the search gas and extracted above, but the ground colour in paids and the based submitted areas of the ventral search as search as the search and the search gas and extracted above, but the ground colour in paids and the based submitted areas of the ventrale and the searching are as as the search but breaching and the seplate areas of the

Espanse : 56 - 78 mm.

Ronge, Chitrol, Knahmir, at an sittings of 15,000 feet.

Habits: This species is courson at very high elevations in the mountains of North Kashmir and Chimal. These butterflies are fainly fast files and frequent open mendows and glades in the hill tops. Its habits, in general, are similar to those of the preceding secolor.

> Argunis lathonia (Linnerse). The Queen of Spain Pritillary. Plata XXIII. for 2

Speciment in the collection: Five, but their exact localities are not recorded. Probably they are from the Gibbin area in the Himshiyae; 60 mm. The specimens in the collection are 10 mm. accorded in severage site than the minimum recorded expense. The smallest specimen measures only 50 mm.

Description  $i \in \mathcal{G}(2)$ . The uppercise is dealt yellowish coange with block merkings. The based area of the wings is shaded with dull dive brows. The disposition of the marking is more or less similar to that in the preceding asceles. The coart descel and

The underside of the forwing is pole yellow with the black markings as on the uppermick, but there is an oblique, unwardly wishanting behaviour-ord pools estending devenwends from the open. On the inside of this patch is a abbre-coloured aprix is interepted, belowing the other policy of the patch is a subsectional policy in the patch is a subsection of the size of the patch is a subsection of the patch is a subsection of the patch with a policy will be patched become being the patch of the patc

chestrant-red band, and beyond these small a pots there is a terrainal row of large always spots rather tregular in size and shape. The terminal margin bears two alender chaotout red lines.

The female to stantar, but the black markings on the upperside are browler and three on the underside are larger than those in the male.

Esperare / 50 - 60 mm.

and of the call.

Runge : The Himsleyes, Chitral to Sikkim; the Chin Hills, North Burms. Also Baluchisten.

Bubble: This is a very common species found plentifully between clevelions of 5000 and 15,000 feet in the Himskeyes. It is easily distinguished from other species of this genus by the presence of the large always spots on the underside of the bland wing. Its highit is fairly rapid and of a possible rig-parign type, mostly close to the ground. It

frequents open country and other settles on the ground or on flowers with the wingspartly closed. The race from habsthaten is smaller and more raddish in colour.

Of the apocker of Apparais represented in the collection this appears to be the arcillast in size.

### Genus Atella Doubleday.

This genus includes towny yellow butterflies with numerous black spots, popularly known as the Leccords.

The forwingly triengdus, within revised appearant everywherhor costs. The tensors is excensively connect in the models. The decreases is also desired. The cells a book less than half the length of the fewering. The half of which events a subject event excensive and the saginty events on the models of season of the saginty events on the models of season of the saginty events of the saginty even

Only two apocine are known in India, and both these are represented in the collection. Tany are Archip phalastic flowary, the Connece Leopout, and Archip eftopse Creamen, the Simall Leopout. The forence, which has bought to connece or the two, may be distillupated from the latter by being large and by the etil in the forwards pleasing four dark lines, while in the latter the cell in the Sorwing beam from a red total kines, wholling the but at the latter line cell in the Sorwing beam from a red total kines, wholling the but at the latter lines.

#### Atella phalantha (Drury). The Common Leopard. Plate XXIII for S

Specimens in the collection Sever, Medras, Kurrood, Nilgiris and Coorp 52 mm Undertunsivity the wings in some of those specimens are not in a good state of

preservation. The smallest spectmen (46 mm.) is 4 mm. smaller than the minimum recorded excepts.

Description: of 9: The uppersonable is highly swerpy show, with reuse of small blacks and payes, somewhat as in the person Argystals. On the foreward, the real is received by which a state can black these socialities the bur at the end of the eal. These are fitness beyond by a series of black spoke than are not been treatment sentence of folical potential and a port-discoil series of continuous harmies. Oriently this there is a neutron authorized that the continuous series of neutrons.

On the hand wing, the based area bears your of slender, litteer, as ther checure spots, followed by a disond section of four well defined apots. Beyond the, there is a continuous series of poet-disoral hundrels, a subtervinal undulating libes and a final terminal power of the continuous sections are sections of the continuous sections of the continuous sections of the continuous sections of the continuous sections are sections of the continuous sect

The underside is poler, the markings being count the same as on the upperside, but factore and finite prior is dull refull he been. Both the white been a which of pair purple. The forecast all spots of the two diseal rows on the firewing see a way and boldly marked. The blooks port in interrupces the cold the underside of the forewing as restricted by large and procurement. These names abovery markings on the underside. On the underside of the devents of the control of the procurement of the control of the cont

### Espanse : 50 - 60 mm.

high up on the hills.

Rance: Throughout India: Assem, Ceylon and Burens.

spots at the apices of the wins as on the foreving.

Rinkley. This species is widely distributed and is a common batterily found at lower continuental fails. In profess to by morely during the of system when it may be found to gracies and arroant edges of exceled possibles. It is not brinkle during the more continuent of the nonexempts. They are stretched to Breeze and during patients of ground where they may the continuent of the continue

## Atelia sicippe merces Every.

#### The Small Leopard. Plate XXIII. fig. 4.

Spectrums in the collection; One, Molabar; 42 mm. It is inhelled Atella skippe merces: Evers, but this appears to be synonymous with the mon organize Manders, which is Owintern and South Indian more, as distinguished from elelphoides Moore, which is the Nathern Indian more.

Description:  $g^* \circ g^* :$  This species closely resembles the preceding one, but is smaller and the block markings are necover and more linear. The cell on the uppenside

# PLATE XXIII

- Fig. 1. Argumes agrees (Linear sub Ex.  $V_{\rm p}\lambda$ 
  - Argyanis inthonio (Linnaeus) (natural eize).
     Aielia pholonia (Druryl Instural eize).
  - 4. Atelix alcippe merces Erans (netural size)
  - 5. Heliaez didyen (Esper) (natural stre).
  - 6. Cuplex ergonomists major Fruhetoefer (x  $^2/_{\rm p}$ ).
  - 7. Cynthia eroix salama Swinhoe (x  $^{\rm 1}{\rm F}_{\rm p}\lambda$
  - 8. Chrochron thats thats Frahetorfer (x \*/\_j).



maximum asy a enzymental attraggment has said a terminal purpose clock benefit.

The underwide is poler and the markings are as on the upperside, but very faint and obscure, and the post-likeoit, freminal and subtermined markings are dark yellowish. In the female, the markings of the upperside are broader and heavier, and on the underside since the markings are broader than in the make.

Expanse :  $35 \cdot 50$  mm. Dut Binghom cites  $54 \cdot 59$  mm. as the expanse for the race sixtycolder.

Range: The range of the species as a whole criteria cour Sifekim, Assam, Burma, Malay Peninsula, Copion and Western Chets, but the present roce, i.e., the Copion and South Indian roce merre (e copicated is confered only to Copion and the Western Ghain.
The single appointed from Melabars in the Museum collection belongs to this race. It

Hights: This apocies is similar to the preceding one in its hubits. It is extremely local in Jin distribution, being found restricted only to particular localities. In South Intia, it is found only in the Western Chicks, where it has been recorded from Coopy, North Chanar and Tresenorce: It is found opinished by the critical localities, especially in Coopy during March and Anni. These buffelines often rest on the undensities of Cores.

#### Gezza Melitaea Fabrichus

This genus tochoire small butlerfiles popularly known as the Small Prittlertes, but all the four jesson lookus species are contined to Northern regions in the Hissakyus such as Relateblakus, Chiznal and Sikkim at high elevations. They are towny yellow above with rows of small black apots.

Q. 9. The foresting like the costs alighily sorbind and the spex oranded. The terms is consex and the decision straight. The cell is decided and converted shorter than the first the high of the wing. The host wing is costs and discuss advant straight. The costs and discuss advant straight. The costs made of the wing the host has discuss advant straight. The costs made of the wing the host has discussed and the straight discussed are marked on the subsection of the foresting, with the dash absorption and the straight discussed are marked on the subsection of the last view gives the comp, these costs are straight and the subsection are marked on the subsection of the last view gives the comp, these costs are subsection of the subsection of the last view gives the comp, these costs are subsection of the subsection of the last view gives the costs and the subsection of the last view gives the costs and the subsection of the subsection of the last view gives the subsection of the subsectio

A single species, Melitora dirigren (Esper) is represented in the collection.

variable and difficult to separate.

### Melitaes didyma (Esper). The Bork-baret Prifflary.

#### e Red-based Prittle Plata XXIII. Se. S.

Specimens in the collection: "Three, 42 mm. Their coard locality is not recorded. On other appears to belong to the new person Kollen, while the other two, with a duller ground colour and house's blook markings on the upper author may be avaigned to the cost obtained Moore. The following description applies to the typical from preven Koller.

Description  $I \in \mathcal{G}$ . The upgravable before knowly under. One his browstep, the cell bears a small below gas delived by the reserves below these. There is also at discul series of black spots and begins the a substructural series of instable spots and a neutron critical black beard. On the first king, the base and describ angins are set efficient with black and the maxilizage consist of a sub-breast black band followed by a discuss series of his back and the insultanges on the first black and the insultanges counts of a sub-breast black band followed by a discuss series of his kink spots, a replacemental series of his substruction of the maxilizage counts of a sub-breast black band followed by a discuss a point and a neutral ablack in a serial series of the substruction of

In the tree chinelensis to which two of the spectanes is the cellection seemschedule, the proant oloculy is duffered and the halot materiage on the upperade see much heavier, but in the respect these is considerable associative state, and is fact, in one of three spectanes, the uppended of the fairth way is abstant completely block, with the ground coloir showing up here and there as small spote.

#### Apriles . 54 - 58 mm.

Range: Balachistan, North West Frontier Province, the Punjab, Chitral.

Habits: These butterfiles inhabit the higher elevations in the Himsisyus frequenting

Hobits: These testifetimes issued the logister elevations in the Homologue Requesting dry and rocky regions. Their flight is eather week and unstandy and they settle frequently on the ground. There is considerable variation in the colour and colour markings of this species.

# Genras Copha Billierg. This stress includes bright brown betterflies recorded known as the Busine. The

forcesting is broad and rounded. with a broadly arched costs and a slightly context tension. The dorsem is slightly context by accessive and the cell is narrowly closed. The bind using is broadly owste with a slightly arched costs and a convexty arched tension which is

scallecord and slightly produced at the tampination of win 4. The antennae are about half the length of the forested with the child code allebite enterted.

Only a starfe lading species of this regus is known, namely Cooks expressible, but Bingham, in his volume on Butterflies in the Fauns of British India series, seconstes the South Indian and Crylon forms into the species Custo placetic and states that the Southern ladien form has been separated by some as C. majo, although he admits that C. plooting itself may be a man of C. erosavanthis. Straterly, make also may at best be considered only as a race of C. ergmanthis, and is treated thus in the present account. Specimens of the Southern Indian mos. C. erumanthis make alone are represented in the Measure collection

## Cupha erymanthis maje Fruhstorier. Diese VXIII de 6

Specianns in the collection - Seven. Corbin. Court. Nictria. Pulpera and Womani-165 purp. One of these (from the Ntlatris) belongs to the (votes) form, but the locality in this cours are made to be incremently recognised, on the twelved from convent and to North Legis.

Description / of Q : The upperside is willowish brown. The forestor is broad and counted and been a broad block triumpiler soiral area and a broad bright willow transverse discal band, extending down from the costs, and broadening posteriorly. The towar border of this voltage hand is defined by a dark transiderly applicabled line. Three azzall black spots of almost equal size are present to interspaces L2 and 3, but in one assections (from the Niletria). These spots are larger, and the lowest of these is very large. almost in the form of a large, squartels black patch. This spectoses apparently belongs to the tyoical form, but how it could have been labelled as 'Niletrie' is not clear, for the South Indian forms belong only to the race majo in which the post-discal apots are small and approximately equal to size. In this specimen, there is also a sub-appeal velice and mon state. The terrors bears a narrow black band. The hind wine boars a number of transported particle black tions and beyond those them is a discal antice of black ands and a row of black, hande-like markings, followed by a second scales of less curved handes and finally a parrow terrotoal black band. The underside is much poler, with the extent area of the foresting marked brownish. On the undecable of the foresting there is a discoil absolutely through line with a series of dark anote on its outer border and two rows of authorization) tradit, abused areas. The underside of the hind what bears a series of breads. like discal appea bordered with purple on the outside and a post-discal band and are shaded with olive brown, and the markings on the underside are more sharply defined

Exposure : 50 - 60 mm.

Range: The range of the species as a whole extends over Cepton. South ladis, the Himmleyes, Mosescorie to Assess and Burms, but the race scaps in the Southern Indian form.

#### 10 (10)

Habits: This species is restricted to hilly country where it is found to regions heating heavy retricks. It is common in the hill fector of Southern India up to an aithinde of 1700 feet. Its light is unfore read, and often close to the ground, but now and then the accorda higher and howers accound tree tops. It hidso readily in the abade of the undergrowth of the state of the state of the state of the state of the undergrowth.

### Genus Cynthia Fabrichus

This genus includes large and handscone butterfiles, popularly known as the Cruiseau.

2.9 - In the forestent, the mean is broadly arched, with the area renduced and

rounded. The items is a lightly conseave. The coil is closed and a lightly less then half the length of the forestig. The line which is bready and trengabley over, include squares, and a vilequalistic, the termina being produced into a conspirouse tail at with 4. The retrincian anguli hoth above and before this till is a lightly easilopped. The termin is definitely angulated. The arrisenses are long and alonder, with the cluth long, narrow and gradually changes.

Although Ringdom. In his whomes on between its time forms of firetish below sectors understore two difference below species, and section the South below fireting below of a section transfer of the section of the separated the South Inches form as a defined species. Consultation 15, e. deformal bases separated the South Inches form as a defined species. Consultation 15, e. deformal bases separated the South Inches form as a defined species. Consultation 15, e. deformal bases separated the South Inches form as a defined species. Consultation 15, e. deformal bases separated the South Inches form as defined species. Consultation 15, e. deformal bases seemed to the second the second that the second the second the second that the second to second the second that the second the second that the second that the second that the parts of the second that the second that the second that the second that the parts of the second that the second that the second that the parts of the second that the second that the second that the parts of the second that the second that the parts of the second that the second that the parts of the second that second the second that second that second that second the second that second the second that second the second that second that second the second that se

### Cynthia areta salema Swinhoe

e South Indian Cruiser.

#### Piete XXXII, fig. 7

Specimens in the collection Eight. Cochin. Nights. Trivandrum and Kajakkud Forest. Cochine Speciment of Trusselvell District: 96 mm. Only one of these specimens is a female. the rest see makes. Description:  $\mathcal{J}$ . The upperside is prilowed been, with the based and apixel produced by the produced of the three produced. It is towar or prilowed became above, with two updating back face on the control section of the data seasons back to stage. The section of the produced back face on the following became and the produced ones from a past showed lighter seasons back to stage, became a past showed the produced ones from a past showed lighter seasons when the produced of the produced

The unfermide is more or less signific, but the boast had of both the wings and the scrifting is this some explaints. The underside of the forecast places a few above white, spicit over the spical seas, an irong reddish brown subtravianal loss and an outer subtraviation lab brown line. The underside of the hind wing been costil as on the supermide.

On the markings are similar to those in the male, but the unconside it shights.

green or dark greenish insuren, with a president which band cursas the discoal area, for a spectrum from the Night; in the collection, is a formed. The band area of both the wings on the upperside is duested with other green acoles. The underside is paid and more becoming that the the made. The hind wing is produced into a built wind a as in the made.

The Sixter instances, colores, in more or less directival with the recised form but the

based area and the recussed margins on the upperside of both wings is much duries brown and in the famale, the upperside is dark olive brown, with the black markings rather prominent.

In North East India, the reasonal forms are markedly differentiated, the dry season form being send. Ighthy marked and the forwing and produced, and the histories scarcely table, while the vet season from its larger, with the kind wing prominently tailed. But in the South indian spectment, those differences are not apparent.

Expense : 72 - 110 para.

Ronge: The range of the apecies as a whole extends over Ceylon, Western Ghata, Nigiris, Sikkim to Assam and Durmer, the men solven is confined to Southern India and Ceylon.

Coylors.

Habito: This is a large, handsome butterfly inhabiting the hills of Southern Indian, below an altitude of 7000 feet in thick evergoes fosset. They are attracted to Source. They are directed to Source That fields is doirly feet and during the hotter hours of the day, they the high or bask on

Their flight is fairly fisst and during the hotter hours of the day, they fly high or back on leaves high up on the trees. This is one of the most impressive among the South Indian. husbrother.

#### Genus Cirrochros Doubleday.

This genus includes butterfiles of medium to fishly large size knows popularly as the Yourun. They are usually tawny above, with a black narrow, cuter margin on the forceding, and on irregular discal black line, and one or two undulating marginal black lines on both the wings.

 $\mathcal{O}$ ? . The forwise jie brough risagolae, with the spec produced and somewhat remeated. The turns in angular from our oil glight connect before the amplitude. The durants is instagate and the collaboric sare closes? The lated using to design extens a highly destinate the a highly state of the collaboric sare closes? The lated using the design extens a highly state and the collaboric sare closes to the transition of the same collabories and the same transition of the same collabories and the same transition of the same collabories and the same collabories. On the three same content of same false, only a samele section, G, which is bright for

Scoth India, and this is the only species that is represented in the collection, by the typical zuce, thats Pruhaturfer

# Cirrochron their their Fruhstorier.

The Tanki Yeeman.
Plate XXIII. Se. S.

Specificus in the collection: Six. Triwnsfrom, Melabor, Pulneye, South Coop and Corbins (C mm.

Descriptors:  $d^2 > 1$  the upseade is beight entities) whose, the transposition of the forestigat the speads and feminal sungles are believe. A furnerers entities has present at the specs of the cell, and beyond this, there is a vertice of three obligation for the spead of the cell than the cell that the cell than the cell than the cell than the cell that the

The underside of the origin is dull growth from sufficient with purple, with properties of the origin with the promisers, framework with these has been been down in the land is edged on either side with either known and give gradually are croser towards the positive ride of the land wing. There is a post-densal row of very small appear on the link wing, and no have been described by the properties of the described by the properties of the described by the properties of the state of

The dry season form is similar to the above typical wet season form, but the ground colour on the upperside is disting and poler and the markings are slightly more restricted and dasky black.

Expanse: 60 - 70 mm.

Sange: Cryling and Southern India, Western Ghata. Coopg. Wymaed, Niigiria, Cochin.

and Pulseys.

Habits : This species is found clearifully in the overgreen forests of the hills of

Southern India and Coyles. It is most common to South India during the months of Patriciary to May. Usually It frequents shalled and shody places near streams and in woody country, often senting on during patches of send with the wings half closes. Their flight is rapid and firstly steady and powerful.

This reque includes medium-sized butterfiles with a bright owner ground colour.

popularly known as the Joisen.

O ♀ : The forcesting is broadly triangular with a blunt upon and slightly arched coals. The termen and derivan see straight and the cell anther above and closed, and less than half the length of the wing. The lated wing is note or less triangularly owner, estimpts pare-staped, with the coats and decrease nightly and eventy arched, and the spex and recovery arched, and the spex and the coals are supplied and with a recovery arched, and the spex and the spex architecture arched coals. The cell is above to recovery the coals are stabled to the late in the late in the specific architecture.

of the wing. The terrors is well rounded. The antennae see fairly abort, about half the length of the wing with the clob abort, abruptly enlarged and flattened.

This gianus includes a single ladden species Egibin things (Druzy) which is represented

in the Museum collection, Sybble Dithis (Drury),

INTERNATIONAL (LIVERY)

Photo XXIV Se I

Specimens in the collection :  $\hat{T}$ wo, of which one is from Cuddiappair, and the other from the Nightis: 46 mm.

Danophinn :  $g' \supseteq 1$  The uppersible is bright temper censign, with narrow block marriage. On the fewering the cents in block decrease it the grow of the wing. The cell is traversed by three traversees block based, the solids ene of which is a rether where and traverse of the state of the solid in the state of the s

template positions (Them analysis) and good to be too in the formation. On the Longestian the limit for the light and several of death in the long that the limit for the light the limit of the light and the limit of the light and the limit of the limit

of paired within spots. Beyond this, there is a new of broadly U-shaped patches of the ground colour clearly desaurated by the blackmore wine, and finally there is to surraised liked booter, traversored by withs, haraket matchings, in the familia, the colour is paler, and the black matching are narrower. There is considerable seasonal and individual variation in this spectra.

# Expanse: 45 - 55 mm. Range: Cavion, Central and Southern India, extending northwords up to Meditys

Products and Kutch.

Makets : This is a common species, but rether local in to distribution. It is confined to day open plottes. But fight is week and almost slewys close to the ground, usually around benefits of feathers.

rest. Its wirings are kept closed over the back but when it banks. It keeps its wings half open and sterify across them in and fro.

### Gunus Ersette Sciedural

This genue tockudes medium-sited dark bown butterfiles psychiatry known as Castons. The upperside of both the wings is method by fine, weap, black lines. The wings are broad and the forwing is obliquely truncated towards the apox.

of § . The costs on the featuring is which yearded. The treatment of the factoring, below the traceasing beginning is some on these accessors. Thered has accreated yearden and their their half the length of the wing. The halfs wing is short, lessading works, rether poor-shaped. The costs and decrease are slightly partialed. The parts, terms and decrease are curved and the terminal imaging anothepyed. The cost is very short and narrownly closed. The actions are set such their global tells for the length of the forewise, with the obligation of their actions are set to the length of the forewise, with the obligation of the length of the forewise, with the obligation of the length of the forewise, with the obligation of the length of the length of the forewise, with the obligation of the length of the le

#### Regella ariadas Johanneen). The Angled Costor.

#### Plate XXIV. fig. 2.

Specimens in the collection: Seven, Trichter, Cochin, Shevroye and Palineye; 64 mm.
These specimens are labelled Expells evident tudks Moon, but the mass indice has been cited as a syrrogum for crisates out not see a not of the lattier by Eingham. The smallest specimen (60 mm.) is 5 mm. smaller than the minimum recorded expanses.

specimen (so man, as o min, senance man the minimum recorded expanses. Describer:  $\vec{O}$  § 1 the uppendix is dark schools become. On the foresting, there is a small conspicuous white spot (not below th costs, before the spot. The uppensite of the wings is transmed by every dark brown times. Two or there dead is have marks one greener in the cell of both the few and hind wings. The undermide is more brownish, and both the wires bear dark cheatman become notes and markines and

transverse strenous beautie of the saure colour. A subterminal rig-ray line is present, differently a terminal unadatelying dark towers line. The financies is slightly peles in colour. The forewing is deeply consense between wires II and 5. The transm of the bind wing is more or less deeply enablespeed. This species is subject to considerable association.

## Expense / 45 - 60 mm.

Runge: Crylon; throughout India, except in the North west regions of the Himsleyes and and regions in the Purgleb. It also extends over Assam, Gechar and Burms and to the Malyan Sub-region.

Habits: This species is widely distributed and frequents the open, drier plains and lower elevations of the hills. Their dight is weak and unsteady, consisting of jerdy movements of the wings. They are often found in the immediate winting of casto plants which see their fixed plants. They generally by close to the ground and are frequently forced sourced and around bankins and hades in castor fields.

### Ergolts meriene (Cramer)

This species is easily distinguished from the preceding species by the more markedly eigeng transverse block lines, by the presence of faterly marked, spots just within the sub-terminal markings and the tarmen of the forwaign being much less occurre in the middle.

middle.

To more, Eppils meritor (Congre) and Eppils meritor Appellon Westwood, are represented in the Massum collection. The former more, which is the typical form of this appellon, and the latter is found in the morthern half of continents Indian, and the latter is found in the Newton Technique of the secretion of Certain Product.

merions (Pulneys and Hossisykonda, Chittor District.) seem to be incorrect, since the typical more in found only in the northern half of continental trids.

### Ergolis merione merione (Cramer).

#### Mate XXIV, fig. 3.

Spectraces in the collection; Four; the localities of two of the spectraces are given as Passeys and Hersleyhouths 52 mm. The race is known only found the northern half of continents indies, and hence it is doubthalf these localities are correctly exceeded. It, however, these are the correct localities, then it would appear that the typical race scattering into faculties and the control in the control in the control in control in the control into faculties.

Descriptions: Q<sup>2</sup> 2: The supermitté le pilloriebh brown, with the treasureme historie disposatel pour leurs and brownig doubser leurs des l'avent partie de leurs and brownig doubser leurs de l'avent au descriptions de leurs de l'avent de l'avent de leurs de l'avent de leurs de l'avent de l'avent

## Espense / 52 - 62 mm.

Rouge : Northern half of continental India, Himalayaa, Simia to Sikkim, Hengal, and throughout Assum. Also Rajaethan, and conciding into Surran and Malayan Sub-region.

Highests: These are similar to those of the preceding species. They are common in the lower elevations in the lattle these are more shunderly found in the lattle and well wooded country then the preceding species which prefer drive country and open phins.

#### Ergolis meriene taprobana Westwood The South Indian Common Gastor. Plate XXIV, fig. 4.

Specimens in the collection : Four, Tricher and Pulmeye; 50 mm.

Description  $i \in \mathcal{G}(\mathbb{R}^n)$  in this race, the ground colour is during on both sides of the wings than in the preceding typical race, some of the markings of the underside are obscured by a sufficient of the dark charitant and the white sub-costal agot on the recention of the furnished as marked when  $\mathcal{G}(\mathcal{G})$  is the function of the probability of the formation of the function of the funct

#### PLATE XXIV

- Pag. L. Subba fithing (Drury) (natural stee).
- 2. Erpolis gripdae (Johanssen) (natural size).
  - 3. Ersolls meriose meriose (Creeser) (contural size).
  - 4. Ergolis mertone taprobana Westwood (natural size).
  - 5. Telebinio etelpe (Pabricius) (natural size).
  - 6. Liberbin mumbs come Probatorier (natural attet)

  - 7. Abisaro esherias pranoso Moree (natural size)
  - 5. Spolate epius epius Westwood to 1 %).



black transverse litres are more clearly defined. The autorior half of the blad ways is amooth and unmarked, and shaded white towards the costs. On the underside also the ground colour is darker than in the preceding race, and the markings are obscured by dark chestrest shading. In the female, on the appearable of the wings, the two post-discullines form broad cordate marks in the interenaces between the value

In the dry season form, the ground colour is paler. All the specimens in the collection belong to the wet season form described above. Emante : 49 - 56 mm.

Range: Southern India and Covice.

compresseds in and accume Martens.

Hubble . The habits are similar to those of the typical race. The species is common in the hills of Southern India, such as Pulpers and Harsleybunds.

Family ACRABIDAE.

#### This finally includes only two Indian species, of which only one is South Indian.

These appropriately translated to the firstly Normaladdie according to the earlier classification followed by Bingham, Arrivan and others. The majority of the species of Acceptant are African. The butterfiles included in this family are validated or toway brown with black anota

and markings and rather acoustly analysis stress. The formation are elemented with a rather produced and narrowly rounded spex and the blad wings are rounded. The foreign are refused. These services missic species of Danabile. They are avoided by birds and other animals on account of the oils, distasteful, protective fluid which exceles from their holies. They are alow to their fibrit and keep close to the ground, settling frequently on the ground.

#### Genus Telchinia Hübos

The forestrat is proving the elevators with a pather convey termen. The side is written The optical and terroinal margins on the forwing are edged with black. Black spots and abruptly enlarged club.

A significationing is known in India and this is represented in the collection. This species is very common in South India in the plains and is frequently soon in produce and

#### Telchinia violee (Patrictus)

#### The Tuntry Castor. Plate XXIV. fig. 5.

Spectrums in the collection : Fifteen, Madras, Kurnool, Triwndrum and Wynaud.

More specimens were collected recently from compounds around the Madras Museum. 50 mm. The smellest opecimen (40 mm.) is 10 mm smaller than the minimum recorded expense. The largest specimen in the collection is 60 mm. (from Kurmcell.

Description: of § 1 the appendix is pittered in our better description of pitters and pitters are possible in the appendix in pitters are possible in the collection of better discription in the pitters are possible in the pitter discription in the pitters are converted pitter with the pitter are present in the pitter are present in the pitter are present of the first better discription of the first being discription of the first being discription. After small discription are present of the black and cover the lower half of the cell. In addition to fish, a subcoost appet and the black and cover the lower half of the cell. In addition to fish, a subcoost appet and pitter discription of the cell. The pitter is person of the pitter are present of a found in pitter as a small post defined appet are present of the pitter are present or pitter are present or pitter are present or pitter are present and pitter are present and pitter are present and pitter are pitters are present as a small post defined applied are present of the pitter are present and pitters are pitters are present as a more post defined and pitters are present as a more post defined and pitters are pitters are pitters are present as a pitter are present and pitters are present as a pitter are present as a p

of the ground colour. The inner edge of this black border is nother irregular, being produced irrestrily in the innerspaces.

The undereside is paller, with black markings similar to those on the uppendide, but they are more numerous and larger on the hind wing where the irrestrial apole are also

very new mones minumedizal such attiger on the finals wing written the terminal apols are sidelarger and white. The hand and theorem are block, the before beingspectful above with white and yellow. The subdomen is black in front but yellowish and oronaed by black items behind. In the femals, the spois are larger, and the terminal band of the hind wings is broader.

#### Empage / 50 05 mm

Stange : Throughout Penharular India: Northern India, from Stad to Saumahira, Himsleyes, as far as Súikin, and Darjeeling, Bengal and Bihar; Ceyton. It is most often

met with in regions having heavy razzikil.

Neakto / This species is common in the ploins and in the bills at low elevations atmost throughout the year. They are found both in veccied regions and open country. They fly

rather unstandily close to the ground, Respectly setting on the ground and violating flowers. Although they are mostly confined to low determines, they may be found up to an altitude of 1000 feet in the third of Southern India. They are common in and assume Marian graders where they are especially attendant fourier guidy and August. Their food plants are greaternly spectes of the Concurber fraids.

#### Panily ERYCORDAE.

The earlier authors included the species of Erychrides in a subfamily (Libythelase) under the Nymphalides, but as some of their characters are quits distinctive and

district they are now separated into a distinct flexib, the Envelopers. These forms are mainte distinguished by the attaches of their furcious these are break . He and rudimentary in the males, but well developed in the female. They fly rapidly, but sensionably, address materializing thereading in the sir for more than a about while This family is divided into two subfamilies, namely, Libytheines and Rindings, which

are widely different from each other in several respects. Of these, the former includes only a single indian geous Liberhea, and this is represented in the collection by a single america. Effectives marries. The latter authorativ tradestes mostly areates from Asserts Historia and Burms. Only a situle species of this subbundly. Abburm ethertus, is found in South ledis and Coden, and this is the sole recoverables of this subfamily to the

#### The forwings are narrow and produced, the terminal marrin being similable and

truncated below the agest and then deeply conceve. The upperaide is dark brown, with a velocitish bown transverse band along the middle of each utne. The milti are over the body, and the forewises drawn into the hind wines, so that only the hind wines and the of the forestein which are motor thele marked on visite. They retain day leaves when resting on twice.

This girms includes the species popularly known as the "Beake", on account of their enormously elongated palso which recomble a beak. The forestraft is very elongly produced at win 6, and despite conservely indented below. The create is widely carried. The opex of the foresting is truncate. The cell is broad and narrowly closed, less then half the length of the wing. The upperside is dark brown with toward bands across the wings. The

A structe expectes in recommended in the Massaum collection although two Scotts Indian species are known.

### Libythee myrrhs carms Fruhetoefer.

# Plate XXIV. Br. S.

Spectrons in the collection : Str. Cochin. Coreg. Polysers, Nettertidal Region, Kalekkad Forest, Tiromekeli District 49 mm. The race corms Projectories is accepted by synonymous with rurss Moore which is described as the Cepton and South Indian form of this species by Bingham in his volume on Butterfiles (Nymohalides) to the Fauna of British Irviin series

The antennes, head, thomer and ebdessen are dark brown above and greyish brown below.

On the bind wing, the costs and former are straight, forming an angle with each other at the apex.

Expense / 45 - 58 mm.

Runge : Ceylon, Scotth India: Western India; Filmelayae from Kulu to Silidim, Assem, Burma, and exterding into the Malayan Subregion and Chine.

Fightin: This species frequents the hills of Southern holds and the Western Ghats in South India, especially the evergicen Forests, where it is commonly seen sectoral streams and rivides in the wooded localities. It frequently settles endamp patches on the ground and minima et dead bed when resting at the tip of a tota.

#### Subfamily ROODSNAE.

In this enthancy, the feerings are practicly short and looks, and the margin of the half wing is committee produced just to will narried table which may be continued into a shorter to the mean species. In factors is which there is no lobe on the half whigh these requires a control of products, or a short, popular tail. The upperside is dark leven, require an observed projection, or a short, popular tail. The upperside is dark leven, the control of projection of the control of the c

Only a single species belonging to the genus Abbson, extends to Ceylon and Pentusuhar ladis, and this is the only species of this subfamily represented in the collection. The other genus and all the other species of Abbson are from the Himsleyne. Marizon: Assam Rurms, etc., and are not received to fourth lotin.

#### Ocnus Abisers Felder.

This germs includes dark boom hosterellies popularly lossess as the Judies. They are discovered by the proof of the forewidg. The forewing is broadly triangular, with an obbisse speak and nightly arched cooks. The terms is counted to the discovered by triangular, with an obbisse speak, and nightly arched cooks. The terms is now, the terms rounded and the derman straight. The cell is short, less than half the length of the forewing and improved yeals. The half of the is more rise to themplathy events, and

Only a single species extends into Penimular India and Coylon, and this is the one of the genus represented in the collection.

#### Ablana echerius prunosa Moore. The Flum Judy.

Plate XXIV. fig.7.

Specimens in the collection : Two, one form Tripundrum, imple), and the other form

Nilgris, (Smale), 44 mm. Unfortunately, one using of the latter is badly mystlated.

Description: S 2: The upperside is purplied in the male, but only brown in the female. The upperside of the forestig, bears obscure discal and post-discal transverse.

toods, paire Than the ground rickness. The approach of the halot weng beaut two results below appears and one of force spans. In a first being producing being the pairs been a clouder within ranging on the contr solds. The ordered is paired towns. The pairs been a clouder within ranging on the contr solds. The ordered is paired towns. The cloud the ball with places as cloud naturer transmess hard and a more distributional facility appear, marginal towns of with his both on the contribution facilities. The remain of the spaces, marginal towns of with the contribution of the contribution of the pairs, to extra force and the contribution of the contribution of the pairs, to extra force and or results. The space is a subject to considerable to relation, the contribution of the contribution of the contribution is the collection, but the contribution of the contribution of the contribution is the collection. In the contribution of the contribution of the contribution is the collection. In the contribution of the contribution of the contribution of the collection for the contribution of the contribution of the contribution of the collection of the contribution of the contribution of the contribution of the collection of the contribution of the collection of the contribution of the collection of th

of the male fades capitly other death. Expanse : 40 - 52 mm.

Range / Coylon, Fendraular India. This is the range of the present race, which is the Scuthern form. But the species we a whole softends to North India, Himshyse, Nepal Elbatan. Assum, Sengel and Elbar, and ske-to Euros.

Habits: Assum, beingal and intert, and use to intrins.

Habits: This species is commonly user with at low or moderate elevations along and around the foot of the Hinalaysa. In South India, they use common in the bills and in the Nights they are mostly contricted to the evergreen regions up to an addition of 5,000 feet. Then forecast where having and made the feet around the end of the data among how

Silege. In the evenings they venture out Bying in a jettly, unsteady manner. When a rest, the wings are half open. They keep mostly to the undergrowth, not much above the ground.

# Family LYCAENDAE. This family includes small to moderate-sized butterflies, consistly known as the

lituse and Heinstreaks, as the blue colour profominates in their wings. But other colours are also present. The upperside is usually blue, brown or orange; some are metallic blue or green or ranfined with purple. The underside of the wings in other brilliarity coloured. The hind wings are often indeed, and in cargo species they close have defined, as threat close take which may be short or long and assumpts broad and fluidy. The females are almost asize, in a consequence of the control of the c

Most of Classe butterfast by saidy in the searchine. Many are common in spen pieces in gent and cond. so, whice offers are fast and one by in forestly subside Seast. The local belong of Clause butterfast is very varied. The egg are slot singly, generally or a local butterfast is very varied. The egg are slot singly, generally or a relevant to the condition of t

The food plants are varied. Most of them feed on legaminous plants.

The males of most of these species visit flowers or actic on damp patches of ground, but the Secules are more matrice, and long mostly to the shaded regions of the jungle.

There is much seasonal variation, and the makes frequely bear according sect marks.

In the many section of subfigurables, but the two mans once to which most of the South, indian species belong, see the lyourestess and the Theolises. The former brokes do not have been a second of the South of these which are delastic fourterings of magnitude, with notice weak fights, and a second of the South of the Sout

#### Subdentily LYCAININA

This subfaculty includes small, delicately built butterfiles. The makes are usually these or binish, but may also be brown or even metallic genes or copperly brown. The financies are brown or occlusted different shades of those or given like the makes, but bear dark borders on the stage. The makes in many species have specialized scales on the uncomaide of the formation.

#### Occus Braditle Westwood

This grows includes only astagle indices species. The costs is slightly arched on the forwards, with a well marked angular appear and consent terrent. The still is above in left the length of the forwards, "The domina is straight." On the lated wing the costs is emisselvent existingly, with the open, terrors and terrare remode and arched. The costs are subserved to be length of the wing. The unicones are maker short with the clab long and gradually enlarged.

# Plate XXIV. fig 8.

Denorphists:  $\int_{0}^{t} \mathbb{Q}^{t} \cdot \mathbf{N}$  is uppercise as whet beave, with either a diffusion of sharping defined white predicts of white predicts of the predicts of the predicts of the properties by a pale gray towered by numerous first shroter, doo'd bewen tendeds in given to underdaid of the properties of the prop

#### Ruspe : Southern India, Ceylon, Bengal, Assam, Sikkim, Bhutan, Kumaon and

Burea.

Habite: This is a small, dull coloured butterfy, with a fairly fast, though unatouty

Fight. It keeps close to the ground, among basines and branches. It willies frequently on lowers and stems of low-growing braintee with the strips closed. It is more usually found in the lath with thick vegetables at low developes but is also one with on the plains in the vector regions. This is a widely distributed species, but not pleastifully found arranchers. The larmer are constructions feeding on meshal hours. It lives arrance related

of the larger mealy bugs and feeds on there. The larva is short and thick and looks almost like the mealy large among which it thes and goves. Genus Talkonds Moore.

This genus includes the butterfiles known as Pierrois, easily recognized by the broad, orange terminal som on the uppende of the bind wing.

 $\hat{G}^{*}(\hat{y})$ : On the forewire, the costs is widely arched. The apex is counded, the termen convex and the doesant slightly should. The cell is long and narrow. The lated wing in oute, with the costs, termen and does not forming a more or less even and continuous curre. The cell is narrow, less then half the length of the wing.

Only a single indian species is known, namely, Tollondo aguess Guerin, and this is represented in the collection.

## Talicada nyseus nyseus Guerin.

The Red Pierrot.
Pinte XXV. figs. 1 & 2

Spectracus is the collection Pour, two of them being from Malabar, and the other two from the Policeys; 34 mm.

Description of \$\frac{1}{2}\$ : The superviside is bowerful black, scentitions with a purplish tage, in these begations. The uppersist of the brind wing bears and large, percentant, orange-end patch on the terrational posterior areas of the wing. Detreme this patch and the terrational superplish there is a nearrow band of the black ground colour interrupted by a regular action of which septs.

The uniterable is afterward white, with a sundante next on the disconsibilities, an

consciousness de la recomposition de la composition del la composition de la composition del la composition del la composition de la composition del la compositio

# Expanse: 30 - 40 mm. Rence: Cerlon, Southern India, Assem, Khasi and Nega Hills; Usper Burma. This

is the range of the species repease on a whole. But the present race repress is the typical Southern form found in South India.

Makker: This instructive is health subsended to certain areas. It is not close to

the ground, preferring absoluted areas in thick jurgic. In fight is weak, and it settles on the ground with the wines (sinced, expecting the brighty), manifed under sortice of the wings. At rights, it settles propriously on stems and rings of low growing brushes. It is wistly destrictioned throughout Protractable triedly, being found at over Central and Western India: In South India, It appears to be more contract in the little of Mohiber and the Platings:

#### Genus Castalles Hüber:

This genus includes a said, but preftly consensated butterfiles commonly known as the Persist.

If Q = The costs on the foreston is widely accided. The foreston boars a blant succ.

a convex interests and straight densum. The cell is dongstate, being more then half the height of the weigh Con the half when, the cess is a necession, this apprehension you remode and the termen occurred. The densum is absort straight. The cell is less than half the length of the weigh. The antername are montered joing with the cells he long and genderally enlarged. All the species, except C nortwo, the Common Ferred, we inhabitation of the bills, where and their threatment resid on those you and weight as well.

Of the six indice species, only four extend to Southern and Peninsular textin, and of these, there are represented in the Massum collection.

# Castalius resimen resimen (Pabricos).

#### Plate XXV. fig. 3.

Specimens in the collection: Seven, Bangalore, Palmeys, Cochin and South Coorg. 97 mm.

Description: of § 1. The appendix is with with clock before and black opening. The control of th

Range - The reason of the assertes as a whole extends over Covico. Peninsular India.

Assem, Forms, Andamage and even into the Malayan Subregion, but the present mor resisson is the typical equitiesm form found in South India.

Makin' This species to consume throughout Persistent for this, so well as Berna and Copts. In South trads, they are continues on the falls up to an artistical of 4000 feet. In thight is enther week, seel it keeps takes to the ground, frequently setting on lowes or vego with the whop that Goods in This species frequents both thick pangle and open country and comes set more in the open survailate than the other members of the gross. The west seems from its new a right more heardy consumed with another.

### Castalius caleta (Hewitson).

The Angled Plenot

Plata XXV, fig. 4. Spectmens in the collection; One, Pulmyn, 20 mm. It is labelled Castalhas coleta

decides. Actually, decided appears to be asymmetric formation and not a zero of the latter.

This species is described under the name decide by Singhem in his volume on Lycsensiae in the Faune of Seitish India Series.

Decopyings of § 1. The symmetry is becomed below, with a bread, model deliver instruments with bound to solid the size, but they generate the back of the best of the size of

#### THE CONTRACT PRINCIPLE OF

Renge: Crylen, Pentanule: India, Nights, Travescore, South Bilar, Medhys Pendesh, risea, Sikkim to Assam and Burms.

Mobits: This species inhabits well wooded regions with fairly howey mainfull. It is a shadeleving species, being frequently not with in and near abuly streams and jumple clearings. It like fairly fast, is North trial at late-pro to be clearations, but in the Nights and Western Christ, it jass been found up to an attitude of 8000 Sect. There is considerable seasonal varieties in this assets.

# Castaline ethion (Drubleday & Heattern). The Banded Blue Pierrot.

Plate XXV. Br. S.

Specimens in the collection i Six. Courg. Pulsacya and Trichine; 28 mm.

Description  $i \in \mathcal{C}$ : The upperiode of both the fore and hind wings are incremed by

a median oblique, breed, treasverse white heart which is broadly edged with dark blue on its inner and corner margine. The based portions of the stags are bleck. The costal margin of the ferewing and the treatment imagines of both fore and hind straps are edged with a border of black.

2 The upperside is similar to that of the male, but the ground colour is dank brown and the median white, transverse bard across both the wings is broader, and without any blue edging. The black at the bases of the wings and on the congine is lighter, more or

The underside in both the sexue is more or less shadler, it is pure white, with jet black markings. On the forewing there are two persible streads, extending obliquely from base to costs. An issue and costs subcreasial series of black spots are green; these of the inner being quadrate and those of the costs linear. On the had uting, there is a current, short, been been at sent touching it on the cutiest and a discult banch. The outbremake short, based board a sent touching it on the cutiest and a discult banch. The outbremake

### PLATE XXV

- Fig. 1. Talkouda nyoeus rapeus Guerin idamai view. x 1 %).
  \* 2. Talkouda nyoeus rapeus Guerin (ventral view, x 1 %).
  - Contains resimon resimon (Febricias) (x 1 %).
     Contains celeta (Fewtweet bt 1 %).
    - Costalius ethion (Doubleday & Hestison) (r. 1 %).
    - Synterseur plinter (Tehricise) (s. 1 W).
       Asseus sennes Buller (s. 1 VI.
    - 7. Asurus urunus Butler (x 1 %).
  - Assnur Jesour garum Lederer (r. 1 %).
     Nesptikecope salmora (Butler) (r. 1 %).
  - Neoptikecope salmore (Butler) ix 1 Vi.
     Everes parrhastas parrhastas Poleteias (x 1 Vi.)
  - Eueres parrinastas parrinastas Palitirias (x 1 Vi



and terminal markings are as on the forewing. The antennae, head, thorax and a biomen are block.

Expense : 25 - 31 mm.

Range: Crybus, South India, Nilgiria, Townscore, Pulmys, Assem and Durma, and extending into the Malayan Sub-region.

Highlis: This species is confined to thickly wooded restons where there is beaver.

rainfall. It is ego to less elemations on the hills and in flight is weak. It is often found near streams and jumple clearings where it estites frequently on the moist cand on the banks of the stream. The makes are seen more often than the females. It is most abundantly found at the foot of the Obets. Green Streamstream Moore.

### This cerus includes small butterfles commonly known as the Zebra Blaza. This

genus is described by Bingham in his volume on Lyosentiae in the Peuna of Brittah india eeries under the nome Tanceus Moore, which he treats as a synonym for Syrichancus. But society speaking Syrichancus is a different. Brugh closely related, grous, and Wymnes-Blyth refers to the two as distinct genera in his Statierflee of the Indian Region.

This genue is widely distributed, occurring in Southern Burope, Africe, Arshie, and Cepton, Burnes and Citize as well as india.  $\mathcal{G}(\mathcal{Q})$ , On the foresten, the costs is slightly exched, the agest obtasely amplained,

the treasure correct of the decrease straight. The cell is about half the length of the white The first white is broad, with the ceals are whole, and the broaden mell curved and downer, the decrease is stratight for the most part but correctly analysed one the base. The cell is exact, loss than half the length of the wing. The antenness are about half the length of the wing with sylcide behaped cited.

Only one common indicate pecks is known, namely, 8, pilnius (Patrictus) and this is represented in the Museum collection.

Syntamerus plinius (Fabricius).
The Salve Disa

The Zebra Blue.

Specimens in the collection: Four, Madess and Coop; 25 mm. Of these, one is budly damaged, with portions of the wings missing. The largest is 30 mm., and the smallest 22 mm.

camago, wan portions of the wings mesery. The largest is 50 mm, and the smallest 22 mm.

Description: The upperside is pale transparent violet-blue. On the forward, the terminal margin in marrowly claim with brownish black, this booker being broadest at the

Bullein, Medrus Government Museum becomish black markings, at right agains to the costs. Close to the base of the forewing,

of subterminal spots are also present. On the underside of the bird wing, the bunds are more or less broken un total areas. The terreteal markings are as on the forested, but the aubterminal apote are larger and the two tornal apote are very conspictus and intersely black, each encircled by a ring of green anales, but these rings are facint into white in the present specimens.

O ... The unrespide to brown with the board area blossed the discretizes white with dark apole. The brown markings have the appearance of an irregularly shaped V on a white enough. The conference is a configurate that of the maje but the brown barries are more regular and uninterrupted. The antequae, head, thouax and abdomen are black in both the sears. The hind wing is today.

## Expanse : 22 - 30 mm.

Range / India, Burma, and Ceylon, This species to widely distributed and extends to China and the Makeum sub-region also.

Hobits ; This species is readily distinguished by the presence of bunds of markings atreatables the strings of seebs on the undensite of the winder house the remains name Zeben Sture. This species is common throughout indis in the drier parts of the country. Its fight is strong and swift and it is considered sustained flight for long periods around bushes and trees. It frequently actifes on leaves. In the hills of South India. It is common

## up to an altitude of 7000 feet. The larves feed on warlous species of legiuminous plants.

This sterum includes arreal businesses without talls on the blad wine, commonly known as the Babul Skasa. The males are violet-blue above, the fermales being brown. On the underside, the wings bear marginal spots and a discal series of confluent spots, and on the hind wing, in relation to these, there are two conspicuous ternal sucts and small

down at raish. The cell is about helf the length of the wing. On the hind wing, the costs to exched, the termen convex and the dorsom nather sinusts. The cell is short, being less than half the length of the serve. The arrestme bear abrumble enlarged chabe.

Three species are recorded in India, all of them being found in Southern India. Of each by a single specimen. The latter is readily distinguished from the former by the

#### The Dull Babul Blue. Mate 2027 At 7

Anames unames Botton.

### Secretarion in the collection : Dee, County 22 rem.

Description / cf : The appearable is dull violet-blue. The costs and termen are

- the discalarns on the forestor, a patch of specialized batr-life scales is present. The two dark mosts in the tornel area on the hind using are minute and faintly marked,
- The unperside is note siller becam with reveals in blue sufficient at the base of both the wings. An anticiliary eleader black line is present at the terminal margin of both the wines. The bind wine bears two small faint black ands at the torrow on in the male.
- of 9 : The underside is growing white, with faintly marked white lines and markings. The underside of the bind wine beam small black anota environed with white. in the subcostal and tornal areas, those at the tornal angle being specially large and prominent. The autennee, head, thouse and abdomen are dark brown.
  - Exposure : 20 25 mm.
    - Bunge / India; Punjab, Sikkim, Bengal, Central and Southern India. Hubble : There are small bufferflies common on the open plates and in scrub regions
- at the foot of the hills. They occasionally second the hills up to an attitude of about 7000 feet. They are more abundant to dry and desert regions. They expendly keep close to the ground, but their flight is feitly strong and rapid. They are capable of swatained flight for long periods. The project settle on dropp patrices of ground with the wines bulli-chosel.
  - Agazon teseon gazega Lederer.

### The African Babul Blue

Place XXV, fig. 8

- Sourcement in the collection : One Moscon 10 mm. Description: of : The upperside is violet blue, with parrow black borders. The
- species. The appearable of the bind wing beaus very faintly marked, dark tornal spots. ? The upperside is efficy brown, tinged with blue at the bases. On the upperside of the formation, there is a large dark brown transverse black and at the end of the cellund a small accounts but its north beauth. The uncombined the bind what beaut observes dark
- subterminal grots towards the torms. Both for and hind wines bear slender, dark

 $\mathcal{O}^2$  . The underside is pair pay, On the locating, the cost is margin bears a block pair to the cell curvatured upon what me disch bevour strong and the next the direct learner. Their is also a subtractional surface of block appears on the cell of the location of t

#### Expanse : 21 - 25 mm.

Range : The species as a whole is widely distributed, occurring in Addon and Arabia besides India, Burma and Cepion, but the present race parea Lederer, is the typical

South Indian race of this species.

Inhibits: The habits of this species are more or less the same on those of the preceding services.

Genus Recuithecope Distant.

This genus includes the butterfiles repulsify known on the Qualters. They are small

to modessic-aired dark brown butterflow.

Of 2 - The contain is arched on the forward. The formen is convex and the domain.

straight. The cell is larger than half the length of the foresting. The land using is moderately broad and triangularly coule. The cell is larger than on the foresting.

This come includes only a single territors receive. Strategies on the foresting and

irin genus ironasse easy a single red in species. Neoptibecope malment (De this is represented in the Museum collection. Neoptibecope Zalmora (Butter).

## be Quaker.

The Quaker. Flate XXV. fin 9.

Specimens in the collection: One, Travancore, 20 mm; this apecimen is nather builty

Description:  $y_i^2 = 0$ . The uppende is don't known, often purplish brown, in the feath the ground readors a slightly neight on the date of the interrupt. These is constitutible assumed variation, in the tryited set assume form; in which the present experience belongs (there is a small while these lands) on the uppendes of this becoming. The understate is written, with a presenter result basic constatutage and of mail basic known of the trying and the state of the three contracts of the trying and the state of the s

brown kursiste markings. The antennes, head, thorax and abdomen are dark brown. There is no tail on the hind wing.

In the dry season form, the ground colour is paler, and on the forewing there is a large

In the dry season form, the ground colour is paler, and on the forewing there is a large onl while discal spot.

Excesses 20 - 30 mm.

Range: Southern India, Cepton: Northern India, Bengal, Orleon, Asoum, Bestern Himshows, Burron, and extreation to Andersons and Maker Perinsula.

Habits : This species occurs in hills of Southern indis at low elevations in areas of swarpeners forest having heavy mindel. It keeps close to the ground and its flight is week

and nather unatonely. It broughty settles on leaves, abone and flowers and on deep patches of send. This species is mostly conflored to well wooded scene.

Genus Evens Hithren

#### This gers a tocholes small, attractively ornamented butterflies popularly known as

the Cupies. The moles are usually deep blus on the uppenside and the females are brown. The bind wings generally laws coago mechange at the terms, at least on the undersides. The bind wings are usually tailed.

 $\mathcal{G}^2$  . The costs on the foreving is widely arched. The apex is blank the domain streight, the feature obtains and the terries strength correst. The cell is about half the length of the wing. On the hind wing, the costs is stightly surfeed, the apex more or less rounded and the terriers strengly curved. The down in slightly convex. The cell is less than half the length of the wing. The meltersals have a composatively large and gradually

Except one species, these butterfiles see all confined to the bills. They frequent open piaces and see fond of samekine. The males see found plentifully in damp sandy areas.

Out of the five or six inclien species of this genue, only one has been recorded from South India and this is represented in the Nuestra collection. The other species are known only from Assam, Stoties, Bishchitesin, Himshyee and Duran.

#### Everes parchasius parchasius (Fabricius). The indian Cupid. Plate XXV, fig. 10.

This species is quoted by Blagham. In his volume on the Lycarnidae in the Faums of British holia seeks, under the mone Mesperia perchanka as a syronym for Everce organies, but the latter is a distinct species, found only in the Rimskyan regions from Cattral to Kennoon and in Sidom and Blatter.

Specimens in the collection: Two, one from the Nigiris, and the other from Madras; 22 mm

INH VENO 1

Description: (1 : The upperside is dark blue with a broad, brown horder. The coats on the forestry bears a narrow brownish line. On the bird stor, the costal marrin is broadly edged with brown. There are subterminal black apols on the posturior half of

O : The upperside is brown or black with or without pale blue discal areas. The costs, soor and terrier on the forested are broadly broadsh black with a sleeder submarginal black line as in the male. The bind wing is more or less as in the male, but the coatal brown border is much broader.

of O The underside of the hind wing bears spots, some of which are black and others done but not much durker than the ground colour. The bind wine is talled There is considerable variation in this species. The present mor paychooling is the

blue, and the females uniformly black on the unperside Expanse : 22 - 28 mm.

Broom: The review of the arracker as a whole extends over Coston Brestonular India Simile. Assem, and Durme, but the present race, parrhaptus is the South Indian form. Nobits / This species is found both on the pinine and in the hills, but is almost always confined to wooded or hilly country. It is a widely distributed species, usually isseptor to low elevations, but in Ceylon it has been taken on the hills up to an altitude of 6000 feet. This is the only appeales of this stepus that is found in the plains as well.

This recess invitates areall to conferent stood butterflies overdocks brown as the

Hedge Blues. Species of this genus have been described under the sygographous generic name Country Dalman, by Stocham to his witure on the Lorentzine to the Store of

of ○ : The firewing is broad and short, with the costs only very slightly arched. The derecto is alightly singuits and the terminal margin copyers. The cell is about half the length of the wind, the hird wind is broadly contend the control lightly arched. The area and brown are also strongly arched, the forms is somewhat angular. The antennae are fatch; about with the child land and Sattemed

In the make, the upperside is bright blue with dark borders on the forestors. In the females, the borders are broader and the hind wing usually been marginal lumulate gaszicings. On the upplemake of the wings, there are a discal row of apots and marrisal handele markings. Some exertes, concrisive those from the Eastern Himshoos, about

Most of the species are confined to the Himningua and hills of North East India. They are found at modern to elevations. They are found of sunabites and fir in open clearings and around streams and rivolets. The make settle on damp patches of ground frequently. This genus includes some of the commonest and most prettily marked species of Indian hertterflies.

India or Peninsular India and Ceylon. Of these five, only three are represented in the Moseum collection.

> Lyonemopels purps gloon (Fruhstorfer). The Common Hedge Blue

Place XXVI. Oc. 1. Specimena in the collection : Six. Pulneys and Migirie: 30 mm. Unfortunately, some of these are fixed and in one of them the winns on one side have been completely ket.

Description: d : The upperside is intersecent visite-blue. On the forewing, the create ones and terrors are business with black, on the blad way, the create is verbroadly, and the termen more narrowly, bordered with black. The black border of the termen is made up of a series of rounded coalescent black spots which are bordered on

 The respectible is white, with the bases of the wines, and in some spectment the posterior part of the hind wing, suffaced with indescent blue. The costs and apex are broadly black, and both wines been broad white patches on the disc. On the hind wine

 $d' \ ?$  : On the underside, the markings are coarse and dowly on a alighity blotch white ground. On the freewing the apot in interspace 2 is oblique and directed topogle the cost of the cost of the cell, and the sect to interestors 3 is vertical and directed towards the centre of epot in interspece 4. Beyond this, there are terretail merkings consisting of an inner subterrainal luming line and outer subterestral series of transverse apots. On the hind utng, two basel and three

apote followed by authorminal markings as on the forestor.

sub-bosol soots are consent one below the other. There are also a soot at the base of intermoce 5, a reach larger and about 9 in intermoce 7 and a discal acrise of the The unternee, head, thorax and abdomen are ducky block, the antennee being marked with white rines.

The above description applies to the tryleal wet season form.

in the female the blue tridescence at the best of the wines on the upperside is

Emarge : 25 - 35 mm.

Starge: The range of the species as a whole extends over Penhasular India, Himslayus, Assem, Burnas, Andamans, and even into the malayan Sub-region. But present monators (Probatolici) is the trateal South Indian Inm.

Habita: This is the asset widely distributed and pathage one of the communication of this genus. It frequents low devations and occurs widely over the Hamilegon south-bills and to the wooded regions of Pentavolar India. It is often not with in purgle character and an Hill time. The makes are found in large manners are tracking the communication of the contraction of the c

#### Lycarzopeis albidisca Moore. The White-Disc Hedge Blue. Place XXVI. fig. 2.

Specimens in the collection : First, Pointeys and the Netterskind Region of the Kaleickad Formation: Trunsferdi. Trunsferdi District; 36 mas.

Described: This species is strictly confined to the Hills of Seath India. It is closely

allied to the preceding species which it resembles in many property,  $\mathcal{J}: \text{The uppenside is given integer then The white on both the fire and hind wings is more sharply defined then in the preceding species. On the forewing their are two well$ 

defined consistent white parties at the bases of intempores 2 and 3. On the hand wing there is a minimum patch in the bases portion of intempores 2.

Some parties of the provide colour send the white patch on the disc are almost as in the issue of the preceding species, but the white area is note restricted both on the fore and hind.

owing man consequency on teach concernment conduct. For cases we come mention and the teach area of the hinds wing, see traged with history.

\$\overline{\phacepox}\$ \times The markings being assume an end-order and more delicate than in the proceeding appetion. On the forward, the panel-threat entre to composed in linear markings enrough this instance, and in the processing appetion. On the forward, the panel-threat entrespects in Lorent instance of the limit where the composed in Lorent markings enroughed. The notion on the filling along of the limit where constricting an entry of the limit where the contriction was the limit where the limit is the limit of the limit to receive the distinct and the limit where contriction was the limit of the limit to receive the first contriction was the limit of the limit

more regular than in the preceding species.

The arthurnes, bend, thorax and abdomen are dusty black as in L. mans.

Expense : 32 - 38 mm.

Runge : 1920s of Southern India at moderately high elevations.

Habbs - This is in fairly common operior restricted in its distribution to the title of Scottiers India. and is found quessly above an altitude of \$500 feet, mostly during the North East monosoon and during number. In high is fully strong and rapid. These been recorded from the hills of Mysecs and Transacces, the Palasya, Anamakia, Migris and Shrevors. This nection closely exembles the exceeding once, the Common Hadas Blue, and, is according to massive for it. but may be resultly distinguished from it by the white patrion on the upperfield is the main being more aboraty defined on the basis gloss on the upperfield in the fermale being less brilliant, with the white patches relatively larger.

If you are a few to be a few or the patches of the basis brilliant, with the white patches relatively larger.

the state of the s

Plate XXVI, fig. 3.

Specimens in the collection of the Court 2d tree. The anestments field into a uniform

L purson, though smaller and parrower.

Specimens in the collection i Ope, Coopy 28 turn. The specimen is faded into a uniffer dual bown.

Description r = 0 : The upperable is uniformly dark purplish blue. The terminal margin beans a narrow black booler both on the fire and blad wings. The underside is white, timed with little revisib blue. The markings are note brown and exceeded as in

Q : The upperside of both the wings in bisish purple, beautifully indescent. The cooks and formen are investly bestered with investeds block while the returne is more anxwey brockerd with the same colour. On the hard wing, the terratural dark border bears accepts of black business searches of black business searchings. On the underside the colour and markings are as in the sinks.

The antennes, head, thereor and abdonces are dark between black, the antennes being ringed with white.

Espanse : 32 - 36 mm.

Ronge / South India. Nilgiria. Arjumalata and Pulney Hills: also hills of Bengul. Assum ad Crylon.

Hobbis: This species is fairly common in the latis of Southern India, it frequents jurgle clearings as well as more open country. It is found at modester elevations, and far light in enther ward. This appelers reservibes wery closely. Linsendators, the Philin Heige

#### Oercus Chiladea Moore

This person includes dull purplish blue butterfiles, commonly called the Line Blues. This is a year which distributed stress property own in North Africa S.E. Europe. China. Australia and Maley Peninsula, but in India only one species has been recorded, and this appries is represented to the Museum collections. This stress is very closely allied to Lycoene from which it differs in the character of the wing markings on the

#### Chiledes latus (Cramori. The Lime Blue.

Plate XXVI, fig. 4. Specimens in the collection : Eight Corbin Specimen Mistrix Matrix: 25 mm.

Unfortunately, the wines are in a bad state of preservation in some of the spectmens. Description / of / The upperside is dull purplish blue. On the foresting, the base and lower half of the costs are sufficied with nale blue. A thread like, alender dark brown

a broad, dustry black margin. Two subterminal black apota with white border are present in interspace 1 and a similar smaller spot in interspace 2. 9 . The uppermitte is dark brown. The fare and blad whom are about with metallic independ him over the boson. The unperside of the bind street hours a runned most discalseries of whillish karralets apole which may be absent in some specimens. This is followed

by a subterminal series of black apots that are bordered with white rings. of 9 The underside is pain over. The underside of the forester hears a transverse broad lumulate discal apot and beyond this, a tanaverse post-discal series of six dark brown apots - all of them edged with white. There is no the undersale of the forewise on additional costal spot in the angle formed between vetns 7 and 9. There is also a authorisated series of tanaverse electrate abote with an inner series of bourn kenulate apots. Beyond this there is the usual marginal alender black line. The underside of the -hind wing bears let black spots successfy encircled with white. The discal apot in interspece 6 is out of line. A aubcostal spot is larger and more prominent than the others

in the middle of interspace 7. The antennes are black and the head thorax and abdomen are brown.

The above description andres to the typical set season form to which the arestoons in the collection belongs.

#### PLATE XXVI

- Pie. 1. Evonemonala praepa afaca (Productorfici la 1 ML
  - 2. Europeopela a Diddison Malanda 1 Mil.
  - 3. Lycnesopeis Basheta Razbeta Moore (x 1 %).
  - 4. Chilledon lebra (Creaser) (x 1 %).
  - Einerin trochfine peril Keller (x 1 %).
     Einerin trochfine peril Keller (x 1 %).
  - 7. Experts only Trimonix I Vi.
  - 8. Zinceriu otte decreta Buthr (x 1 Vii.
  - Euchrysope enejas Febricka (x 1 %).
     Euchrysope pandana pandana (Hornfeld) (x 1 %).
    - 11. Gaiochrysope strate (Patricks) (t 1 %).
    - 12. Lampides hoetless (Linnsess) (x 1 %).



in the female, the appearable is pullier pade blue with broad brown borders. In both series, on the underside of the bind wing there is a laces cloudy brown patch posteriorly.

Empares - 28 - 50 mm.

Range : Caylon, India, Burma, Himologue, ranging from the North West Provinces eastwards to Assars and Beneak Central and Southern India. Hobbs: This species is common throughout the pickes of Southern India and in the hills it to found up to an attitude of 4000 feet. It they share to the stooms and comes out

often in the open sunshine. Its larval food plants are the Lime and the Pomelo and it to found wherever these plants are abundant.

This serves includes way small, matthly coloured butterfiles community as the Green Bluce. The upperside is generally blue with dark borders, or brown, with or without blots is proles at the base. This property name is spell on Zinow in Bingham's welcome in the Fauma of British India series and other earlier works. of Q ... On the forestry the costs is widely sected and the open blust but well

defined. The termen is short and correx. The cell is short, being a little less than half the length of the wine. The blad wine is costs, with wine 5 and 6 corresponding from the lower spect of the cell. The entergree has the club elongated and more or less specialists. Of the five recorded Indian species of this genue, four ere represented in the Museum collection, but most of the seccimens in the collections are in an imperfect condition.

Zieseria treobilus putil Halar.

### Plate XXVI. fig. 5

Specimens in the collection : One, Madran: 16 mm. The South Indian form is appended as now said. Recently, because, this has even been senarated as a distinct overless by score authors. This species is referred to as Chilodes trechius in Biogham's volume on the Luciensides in the Farms of British India series, although the correct position of this america is under the serves Decerts.

Description to diff. The unperside is brown, the shade of brown version to different specimens. The uppenside of the foresting is uniform with an ill-defined dark merginal line in some specimens. On the bind wing a subterminal series of round block suots bordered on the traids with yellowish brown edgings are present. The undenside is pale sillor brown with a abort line in the discal eres, a curved discal series of small rines and a post-discul series of harmists muckings on the foresting. The underside of the hind wing beens two about whole knee within the docal area and the other maridnes are an on the underside of the foresting, but there is a complete series of dark apote between the subtreminal series of white lumidate markings and the white terminal line.

2 : The upper and undersides are as in the male, but the touridage are larger and block point and defined. On the bind wing the yellow patches hordering the authorizated block spots are wider and more presented.

The antennae, head, thorax and abdomen are brown in both the sease.

The jewelled, metallic, orange-cowned spots on the hind wing have given rise to the popular name of this species, namely, the Grass June).

In the South Indian mace past Koller, to which the single specimen in the collection belongs, and which has now been separated as a distinct species, the haid wing has the merginal spots prominently covered with conrap both on the upper and undersides, and

the underside is paler. Expanse : 15 - 25 mm.

on the foreiwng

Songe: The range of the species ee a whole is wide and extends throughout India et low elevations and also to Burma, South Eastern Europe, Africa, Ambis and Central Asia. also Asia tribia on the Makayes Best-region. But the present rece, pasti Koliar, is confined to Caylon, South Indian and Nortis East India.

Jinhin: This species is common in the hills of South India at low sicustices. These butterfiles thy close to the ground in open, greasy mendows. Their flight is weak and interrupted. They active deepuntly on low registation, and often come out in the open sunsition. This is one of the smallest of all indian butterfiles.

Eineeria lysimon Hübner. The Dark Grass Rius.

Specimens in the collection 1 One, Sungalore, 18 mm. The wings on the left side are belly demand in this specimen.

Description : O'. The oppossable in deep blase, seaflaned with voicet, and with broad, and in thore managing. On the opposition of the high order, a subdeminatal series of blacks, round upole are greatest he access specimens. The undestrable is grow, with a spot in the middle of the out and on curved disable series of eight blacks, oppose on the frevening. Beyond thanks, there he are littered and outser subdeminated series of elongate designs opto. On the understile of the field withing there is a transverse, curvely, sub-blassal series of their apprix of the supplemental of the supplemental or the subsection of their apprix of the supplemental or the subsection of their apprix of the supplemental or the supplemental

2 : The upperside is brown, with blue scaling in some specimens. The freewing bears a short, transverse, dualry line on the discovellulars. On the underside, the ground colour to darker, but in some specimens it is pale brown, and the markings on both the does and hind wings are as in the male.

The nutremann are black, ringed with white, and the head, thouse and abdomen are brownish.

Espense : 15 - 24 mm.

Africa and to the Malavan Subreston.

Ronge / This is a widely distributed species, its range extending over Southern Europe, Africa and Asia. In the Indian Region it is found throughout India, Rumas and Crybos. Its distribution also extends to the Makeyan Subregion and Australia, and even to Makeyana.

Hisbits r This is a common species, and is one of the smallest of the Indian species of butterflies. There is non-seasonal variation in this species, in the wet ceasen forms, the match has bready terminal beyone markingle and the femile has more estimated value estimated or the superior of the ways on the upperside. The habits are more or less similar to those of the momentum conclus.

Zinceria galka (Trircen). The Tire Green Since

Pinte XXVI. fig. 7.

Speciment in the collection  $\epsilon$  One, Nilgarie; 16 mm. The specimen is incomplete, with the left forewing missing.

Description: f': The upperside is dull blue, with a broad, dark border. This border is margined on the outside by a thin darker bown margined line. On the bind wing, the ground colour is brighter and the brown borders are narrows. The underside is gay, The underside of the forwing boses sharply defined markings consisting of two

subcostal black spots above the cell and a strongly curved series of the discal black spots. The underside of the hind wing bears a sub-based series of three spots followed by a curved discal series of gift a spots.

 $\hat{V}$  : The uppointed is plainty/sony brown, without very violet tings. The underwide is similar to that of the male, but the ground colors is slightly darker and the merkings

The autenzase are block, and the head, therex end abdomen are dark brown, the head and thorax bearing a violet tings on the upperside in the make.

and thorax bearing a violet tings on the upperside in the male.

Expense : 16 · 24 mm.

Brone : Throughout Pentassike India, Burma and Ceylon. Also extending to South

Mabita: As the popular page enginests, this is one of the theset of Indian butterfiles. being bandly gover than about half on took arross the utness. This is a negation appeales of Orner Blues, and its habits are similar to those of the preceding species of Elseeris, it coveres to stress and low beckure Outstandard India, but to best somet to high boralities.

### Zipperia ette degreta (Dutler).

#### The Lesser Grass Blue. Mary XXVI. By S.

Successes in the collection | Pour, Medius: 20 mm. Unfortunately the wines are Description - This species differs from the perceditor one to having no subcostal and

on the undecade of the forewing. of . The principality is highly write with a afterny bibliography. The friends a best in

broad, brown margin along the termen and towards the eyes. The highlighted also bears a broad, brown broder on the apteal.coatal and temphasi margins. Beyond the brown margins, there is a elender black marginal line both on the fore and hind wings. The underside to brownish grey. The underside of the forestne beam a curved discal series of a norm relevate black appear. Beautiful than he a series of tener and outer subtermined dusity excits. The underside of the hind wine bears a sub-basel series of four spots and a discret series of nine spots of which the spot in interspace 5 is shifted insweds and not in line with the epots in interspaces 5 and 7. Each of these spots is excircled with a narrow rim of wishe. The terminal markings are more or less as on the underside of the forewired. There are no spots in the cell on the underside of the hirst wind.

9 : The upperside is brown, suffused with violet-blue at the bases of the wings. Both the fore and hind wines have elender, marrinal dark lines. On the underside, the markings are similar to those in the male, but the ground colour is darker,

The autenage are black, with shafts stored with white, and the head, through and abdomen are brown, with blue scaling.

Roose: The room of the species on a whole extends over India. Ruma and Cerlon. Within India it has been recorded from Pumjeb, Stikkim, Bengul, Assem, Central, Western and Southern India. The dressest most decrete Butler, is the South Indian Birts, but the differences are very alight, and it can be hardly distinguished from the bentral from

Highlits: This is common species found in open, many fields and insultows fixture properties for class to the dround. It is addressed to India. Its babits are to several stroller to those of the preceding species of Grass Blues. The larvae feed on the leaves of the promitter plant. Misson profits. It is executed by a bufferfly of the plates. Occasionable

## This errors includes the species commonly known as the Phina Capida and allied

time grazes uncodes the species commonly anyway as the Philips Capitals and allied forms. This is referred to by the name Cotochryacops Rotedwal, by Bitzghans in his volume on Butterline in the Faunt of British incide series. But Cotochryacops is a distinct groun and is not synonymous with Euchryacops.

 $\vec{G}$  ? The costs on the feerwing is erclock. The terms is covered and the spectroscent struct. The closures is similar for all the relia should be life be regarded to expect the costs only approximate the costs of the costs

Of the three indian species of this genue, two are represented in the Museum collection.

#### Euchrysopa corjus (Pobricius). The Gram Blue.

Plate XXVI. Dg 9.

Specimens in the collection; One. Medime; 21 mm. The specimen, which is a male, is rather fided.

Description; 'f' : The uppermide is only purelish, with a blaich time. The

opportunities from the contraction of the contracti

Q: The upperside is dark brown. On the forewing, a triangular area at the base is blood wing in also nuthated with time posteriorly on the upperside. On the upstended pound colour and medicing area in the male.

Espanse - 25 - 33 mm.

Sunge : India, Burms and Coylon. This species is widely distributed. Its range arteryline also into featurells.

Highler /This species is occurrent throughout india and is found in the bills upon about 4000 feet. Its flight is strong and supid, and it often rises highle in the air. If requestly section on flowers and also on damp patches of nave where it hashes with the wings half open. There is considerable waterion in the in this species. The food plants are fermationed. This butterfit is a next of green cross. In South india.

#### Euchryseps pandava pandava (Horsfield). The Plates Cubit.

se xxvi. ng. 10

Spectroms in the collection; Str. one of which is labelled "Madras". The court locality of the other spectroms is not recorded; 28.5 mm. The annaliset spectrum (19 mm.) is 6

one, smaller than the minimum recorded expanse. Unfortunately, the wings are damaged in some of the specimens.

Descriptor of 'The uppenside is bright lovender blue, with the veloc darkened.
On the foreviral, the costal months is narrowed edged with dark bown and the terminal

insight more broadly edged with dark forom. The treman lates been a shrufer merginal block live. The uppearsh of the history white please a substrated series of block street, block live. The uppearsh of the history of the providing there is a absolute marginal block. In the uppear of the property of the providing the please of the providing and least treatment of the providing the providing the providing the providing the providing the providing the transport outer above, the two contracts of the providing the providing the providing the street and outer address Bonds. Other quantities of the providing the provision of the providing the provision of the street and outer address Bonds. On the contracts of this high the type the tental blook spectture.

may be absent, but if greenest, the spot in interspace 2 is reach incorp.

2 : The upperade is bowen. On the Screening, the besid sone is sufficient with blue which contends outwards over about half the length of the wing does it be middle. On the upperade of the Intri wing, there is a like indisconts room to be incorp. The substraint of the substraint is a sufficient to the state. The substraint is a substraint of the substraint in the substraint is a substraint of the substraint in the subst

and abdones are brown the head and thorax being covered with blaish hairs.

The above description applies to the wet season form which is the typic form of the species.

In the day research form, which occurs each in the South West macescon serves, be shistles seen in the fromsic extincted contendes on the feverage to these South of this largely, fives the base and on the Mark wing. The blabals area covers the entite medium part of the wang from the base to the sustinements proved profits. On the understake, they givered ecloser is disable, and so the understake of the blad wing; the discale band is with an eller condescent with the part of the war of the deal for from a way to each; if defended medial band on the

Economic - 25 - 38 mm and North West India.

Remore: The purple of the species on a whole extends over India. Human and Covice. in fadia, this species is confined to Pententiar India south of the Himstown, confeding the dry desert regions of Northern India. Its range extends to the Malaysian subcodons. The populational invitors were to Europeanage providing providing to which the experiences to the Museum collection belong. Another mon, retuning is found in the arid regions of North

Hubble: This species is found mostly at low elevations and confined to the water and more thinks would curious of india. Its flight is less more and may record than that of the preceding species. Make frequently settle on damp patches of sand. These butterflies

remails the close to the errored to streamband and wood telested areas. Genus Catochrysons Doledsval

This games includes medium-sized butterflies popularly known as the Poppet-menote. For exerty, this process included their indian exerting of which two, morety recoders.

and engles have now been reperited into a distinct genus. Eachrusops. of Q . On the formatest the create is probed and the over in scrate. The terrors is convex and the docum straight. The cell is about half the length of the wing. The bind

when its appropriate elements and neurophyresis. The terrors and decrees are allebely consex. The cell is abort, being less then half the length of the wing. The autennae are sorly about siender and with medually enlarged club. The body is column. Of the two ladian exectes at present included in this steras, one is very rice and

occurs only in Assem Human and Coden. The other exectes Gateshnoons attached (Fabrictual, is the only common brillen species of this stepus and this is represented in the collection

Catechrysops strabe (Fabricius). The Forget me-Not.

Plate XXVI Rd. 51. Specimens in the collection: Firm, one of which is from the Nilstria and another from the Pulmeys, 28.5 mm. The locality of the remaining three specimens is not recorded. The

wines in some of the specimene are body mutilated. Description: This species elseely resembles the Gram Blue, Eachtysops corpus Pulvictus), in colour and apparatus.

of . The appointed to pale violet-blue idaded into a dull brown in the present provingent. The magnitus of the wines been a slengler black line. On the unnerside of the whittely border on the inner side. Interspace 2 beam a prominent, cound black tornal spect, edged on the brokely by a faint blass househed morking. The understalk is full gold good, CM to understalk of the firewise (i.e. thouse house house here are not a small remail spect as present on the costs between the set of the band and the spit at the of the cost. The same househed part is not explicate the same than the cost of the cost. The addition is the band, there has the cost of the

other small species and bands and luminate markings.

O : The upperside is brown, with the base and discal arress suffused with metallic

blas. On both the strings, the contained terminal news are broadly hordered with brownish black. The upperside of the hind was been a discal series of fascous brown agots. One large, prentience, block good to present in the terminal rance of the hind wing and in favoriof this agot are present a linear blackaged enterted with while in each interspace. On the underside the stronged colour and matchina are set in the made.

The antennee, head, thoux and abdumen are dark brown.

Expense : 25 - 38 mm.

Ronge: India, Burms and Ceylon. In India, It occurs throughout Pentraular India, south of the Himsteria. and in James.

Highlits: This species closely resembles Early-goops oregan in appearance and habits. It is a common butterfly found all over india especially in weed-infected open fields. Its flight is replyl, and it seconds the bills up to an altitude of 10,000 feet. Its larves feed on writers appelied of feet retrieval relates.

#### Gerrun Lampides Hubber.

This goes and selected meditar-sized bufferfiles connected between the Pau Stone.

There has been seen continuous registing the most connectations of this general species for several connections of this general species for the victures on the processes to the victures on the processes to the processes to the victures of the primary of meditar buffers of meditar buffers owners, been now been appreciate buffer begans a formed in Fifthers, which Buffelbauer, then are several to the processes which the primary formed to provide the processes which the primary formed to provide the processes of the primary formed to the product to the primary and the line beam to make the provided to the primary formed to the product to the primary and the line beam to make the provided to the primary formed to the primary f

species that are correctly referable to the genus Polyamentus are treated as species of Lycarra according to the order system of classification followed by Englann. I have followed the latest system adopted by Wynter-Bight in placing the species boetless under the gross Lampates.

the group Lampèles.

Of S: On the forestrig the costs is nearly straight. The apex is well defined, the serious convex and the departs straight. the cost is slightly less than helf the length of

the ving. On the hind wing, the costs is nightly less than half the length of the wing. On the hind wing, the costs is nightly arched the apex sounded, and the termen straight in the femnie, and elightly convex in the male. The docume is straight and long. The cell is short, being less than built the length of the wire. The antennas as short with long, gradually enlarged club. The made bears a patch of specialized acales.

This genus includes only a single indian spacies, Laupides bactims, and this a represented in the collection.

#### The Pen Blue.

Plate XXVI, fig. 12.

Specimens in the collection  $\varepsilon$  Str. Bougalore, Pulsey Hills. South india; 20 mm.

Descriptions (d' : The uppenshols is white-blue, weekeld with white scale. Like helm which give the writing a fewford approxime. On the fewford, the coasts is mirrorily tourisered with brown and the tremes user besself to 0.00 the shade wing, the termes is a recovered by border with brown, which the coast and spect level a node allowed because border. The common property of the property of the coast of property because of propish because of probine because of propish because of pr

Q: The upperside is durk brown with the basal area indexcent blue. The uppenside of the forming bean foliaty named subbensials series of bisish spate. The uppenside of the blad with plans a post-dised pale transverse board and a subtransial series of spoke-named with white. The two posterior spots are black, while the others are bown. The supplement is as in the stable.

in both the score, the agricumes, bend, thorne and abdomen are brown, and the hind wrige are tested  $% \left\{ 1,2,\ldots,n\right\}$ 

Espanse : 24 - 35 mm.

Storge: Throughout holis, Burna and Crylon: This is a which distributed species, its range extending over the whole of Europe, Asia and Africa, and even to the Malayan subregion and Australia.

Bibles: This is a nignitive species. Long mathers of this species nignite loss. South Bast to North-West looks during there and spell in Signific streng. It is excursion all ower looks, and may be seen dropwordly settling on flowers and so the ground, speciestify on damps patched or ground. There is considerable surprised in state, but the speciestify on the patched or ground. Their is considerable surprised in the policy and flowers of logurations platfor.

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#### Gener Jamidee 100beer

This genus includes fair-sized, bisish white butterfiles, commonly known as the Cerulesza.

This genus has been considered approximates with feasibles by Blackurs in his

volume on Lycarcidor in the Fauna of British Insta series. But as pointed out earlier, Lampsides in a distinct gerous including a single apocine, bordinar, which Bingham Includes usafer the gimen Polymentales, However, species correctly reliefuble to destroide are discribed as species of Lampsides by Binghiam, according to the older achience of classifications.

- C: The upperside is uniformely coloured, varying from blotch white to a deep glossy some bins, with a some or loss block outer mergin, reduced to a narrow, thread-like like on the hind wing (except to J. Joseph in which there is a broad, block, outer border and black special area on the foresting).
- $\hat{V}$  : The upperside is pole blue, with a broad, black border on the forewing and marginal black upote on the hind wing.
- of Q on the undereide, both sears beer merginal white lines on both the stage. Inaddition to these, the Screeting Beaus Sour, and the hind stragets, discell white lines. The hind stage are sailed.
  About addit species are recorded from India. Of these only three superies are found.
- in South India. And all these three are supresented in the Museum collection.

  Jamaidee beckus bookus Courses.

### Plate XXVII for 1

Frame AAVII. Rg. 1. Specimens in the collection / One. Departures 25 mm

Description: O: The upperside in bright, donk, metallic blos, with a very broad, black outer border, and a black appeal see on the forestig. On the upperside of the hind wing, the costal margin and the donal mergin bear a narrow browship border and the terrorized mension is reproved broadered with black.

This is elected with bases.

 This is elected to the mole, but it of dail, non-metallic blue colour, and with manginal bleek spots on the upperable of the hand wing. The bleek contail and terminal margine on the upperable of the hind wing or who much breede.

 $d^2Q^2$ . The underside is dealt become (fided in the present specimen toto a pole creatry between, with both the wings bearing stender white lines more or less interrupted units short streeds. The underside of the third wing bears note broken and irregular lines. Protecting, an analytical final bearing the street of the third wing bears once the final to present polarisation, a small but distinct below poor depth of with early bown on the final to present the street of th

## PLATE XXVII

Fig. 1. Assistes backus backus Owner's: I Wi. \* 2 James Lands and Contract of L. W.

\* 3. Assetdes elpts europasses Probatorier (c.) 1 %).

 4. Nonadubo nore Frider tx 1 W. 5. Nacoduba norcia hampeoni De Niondie (x 1 %).

6. Curette thette Druzy (stade, natural stre).

7. Curette thelia Drury (female, natural stret.

5. Proofs (September (September) September), about

\* 9. Ambigoodig amendra amendra Herritann (natura) alse). \* 10. Amblamodia bassiloldes Hewitson (natural size). \* 11. Leaves attended accounts Monre (natural ates).



PLATE XXVII

Balt, Madro Gov. Museum (N.S.), N.B. VII (1)

in interspace I between the subtrensiand pair of lines, and in interspace 2, there is a much larger round black spot.

The autocane, head, thosax and abdomen are black in both the sense.

Exponse :  $25 \cdot 34 \, \mathrm{mm}$  . But Binghon cites  $34 \cdot 38 \, \mathrm{mm}$  , so the measurement for this

apecies.

Songe / India, Burma and Ceylon, except in very dry regions. Also extending to Australia and Malaram Subrerion.

Highles: This is a common species, but differe in habits and appearance from the other species of this genus. In South indick it is common in the bills at elevations up to about 7000 Sec. It Ricks way earthly, and frequently settles on Januar. The remarks wat on damp pebbles of ground, but the females are more generally found higher up smong

#### Jamides celeno celeno Cramer. The Common Ceruleun.

## The Common Ceruleun. Plate XXVII. fig. 2.

Specimens in the collection: Six, Medrae and Benjalom , 35 mm, of these three are unfortunately decoaged with perform of the wings mutilated.

Inequiption c of c The uppendix is pale blaich white. On the flowering, the increasal mangin is amounty becomes of this horselms allowed with black, which bronches adjust between the apact to a width of c or 2 mm. The uppendix of the hind wing is uniformly pole blaich black with with a finite ranginal black time, edge on the black by a black white the many that within the many that c is large and well marked.

The unfarrate is graphs been with the foreving traversed by sores while lies and the hinds wing by rates within lesse. In the day some three, to which the present specimes being, the areas between these while lines see filled in a form year of the second of the second

? On the uppressible, the wings are white, or polar than in the male, and the terminal black horder, is much breader, aspecially at the space. On the hind wing the costed jumpin bears a bread, black mangin and there are post-densel luminose apole followed by black apole on the outer side. The underside is much polar than in the male.

The antennae are brownish black, and the head, thorax, and abdomen pale brown, tinged with blue on the thorax and base of abdomes to both the score.

#### Expanse : 27 - 40 mm.

Strange r India, Crylen and Starmer this is the sange of the species as a whole, but the present race, prints in the trivial South Indian form.

present race, criese is the typical South indian form.

Mabita: This species is subject to considerable variation in its colour and markings.

It is no common species found throughout halfs almost in only type of country both on the
Mills and in the delate, screen in very div send desert regions in the south. It is common

as South Inside up to m arbitrate of \$4.00 feet. It is a sensitize-inviting epocies and offers comes out to the open. but its light is week and it is loope low storage the bushes. Froequently resting on loves and salesy parties of ground. The food plants are marily legislesses. The work season form is very articlar to the dry sensors form described above, but the ground colories is desires and the back transpire of the forweigh is broader.

# Jamides elpis eurysaces Fruhstorfer. The Glistening Ceruleau. Plate XXVII, fig. 3.

Specimens in the collection: One, Coop; 34 mm. The present specimen belongs to the wet season broad, described below.

Description: 

f: The uppenside is assure blue which becomes durker towards the

ages of the forestig. On the ferwing, them is a merow bales forestead bother which bondom townst-fix depaces. On the hald wing the ground enables the costs and decad mangins. A subbremion series or black appets, bestered on the costside with whicher present. The underdeaded populs between these costside with whicher present. The underdeaded populs between, trevened by white libers, in addition, two subbremions and a treminal white treatween lines are present in each way followed by a marginal addition, which then

9 : The upperside is pulse blow with a purplish tings. The contail and decreased mengine are heavily bendered with block. On the hinds wing the markings are so in the mole, but the apids are larger. The underside is so in the made.

The amounts head, there and abdress are dark brown and below the thosis and abdresson are white in both the score.

Dry season forms are palen, with narrower black border in the foresting in the female.

Espanse: 32 - 40 mm

Rouge: The range of the apecies as a whole extends over Sidden, Bhutan, Bengal, Assem, Burna, Scuttern India, the Nigote, Coop, Copin, Ashanasan and Nicolines and own to the Makayam Entering in literature; new formers, but the present rose, surpasses. Fruitharister, is the typical South Indian rose.

Fruitharister, is the typical South Indian rose.

Habits: This is a widely delithiated seeding, but the form Analyses. Palder, from

Silder, Bhaten, Assum and Burms, is touried as a superste species by Wynter-Blyth,

while Higgleon Includes R as a rock of shorted spile. If, however, knothern is treated as editablest species, on R I showal the rolls that species of classifications, the range of the species spile becomes more restricted and would be confined to South Include. Copies and Andreacans and the born more within short that this supervised as a deligence seen, engagence as which the process speciations from Cong belongs. The habits of this species recursion to the complex spile of the thrown both can be thereare not asset for distinguishment of calculations of the confined spile of the thrown both can be thereare not asset for distinguishments.

## Genus Necessials Moore. This evenus includes the butterfiles popularly known as the Line Blace. They are

either tasked or taillean, and the underside of the wings is generally brown. The wings are towered by white, paired lines d'' = 0. On the freewart the costs is widely arched. The terms is convex and the

degram straight. The cell is about half the length of the wing. The hard wing is more or less triangular withis widely arched costs, a blant space and a slightly convex termen. The cell is about. The autoresse are short, with the clob gradually enlarged.

of : The appearable is dark blase or visite with narrow dark borders.

C . The opposite a contract of white shall throw our resonant

Q : The upperaide of the forewing is pain blue or purple or white h in the discularus, with broad, dark brown borders, or it may be brown throughout.

Although about helf a dozen species of this genus are known from South India, unfortunately only two of them are represented in the Massum collection, but one of these two, N. serets, is said to be very care. It is difficulty to distinguish the species of this reman one from the other.

#### Nacadaha nora Feider. Tan Correron Line Khan.

Plate XXVII, fig. 4.

Specimens in the collection : Five, Madron 23 mm.

Description 1 This species is referred to under the name of Nacoduba ordains Moore, by Blaghara in his volume on Lycansides in the Faure of British india series. In this sector the hind winds were failed.

of The uppenside is purplish brown, constitutes simply bownish. Both the fice and hash wings been slender marginal black lines. The black wing boars a subterminal black plane is uncompass 2 in one spectrum. The universide is bownish as done in the recently bears a series of firm sixthe in pains mercely bodient on the trade with faccount recent the contract of the series of the sixthe in the series of t

200 Euleris, Mother Government Museum [N.H. VII, NO 1
The unrilateded of the hind wing bears numerous pains of white within, edged on the hands with durit brown, but broken and tregulars, and a proximent round substraintal hinds and in tenterance 2. A double multi-multiple action of durit linear or hundrate mother

are present outle suckenside of both the five and lated wings.

2 : The uppenside is purplish brown with the wings or in the naise, but with an gatescent blaids glow on the investing fives the best to the files, and on the lated wing there is a above marginal within the rathest the usual articlety block line. In advictional document of the latest with the latest the latest the sould articlety block line. In the advictional document of the latest with the latest three latest line and the latest line and latest lin

The antennae, head, therax and abdomen are dock brown in both the same.

Exposes: 18 - 25 mm.

Rospe : Throughout index, Burms and Ceylon, extending to Andersons and

in the male, with the markings similar.

Nicobays, but not found in desert tracts.

Mabits: This species is subject to considers be suristion in respect of the countings on the underside. The underside may be dutil below with white time or probable to grey with dark beauty. This is a resumm species found on the hilds on well as on the plates, it ascends to see all those of others at 5500 feet in the hilds. Its light is strong and regid. The makes often seek the on damp particles in large machines. They are perfectively desirated to

eattle droppings in the vicinity of streams and marches. The females keep to the wooded parts and do not come out into the open. The food plant of the larvae of this species is Acadis comic n legaratinous plant.

Nacaduba noreia hampsoni De Niceville

Plate XXVII, fig. 5.

Spectores to the collection: One, Nilgirle, 22 mm.

Description : This species was originally described as a geographical form of N, seen, but is sufficiently distinct to be ranked as a species.

 $g' \in \mathcal{G}$ . The suppression of both the wings in dark brown. The foresting bosons a frings which is whith at the spect. The based protect on the Develop is not because g' and the based point in this based with g' and g' and g' and g' are the based point in blanch winds: The understate of both the stage is pole within horses with an electrocollists are put in each oring and with an unumber of sows of species, most of them excluded with while. There is a flavour tower marginal like and a within the solution of the stage of the species of the species of the stage of the species of the stage of the viction. On the understate of the first flavour tower is a stage of the viction. On the understate of the stage of the viction. On the understate of the stage of the viction of the understate of the stage of the viction of the understate of the stage of the viction.

beer.

Range: The range of the species extends over Coylon, South India and Pentraular India up to Medhya Predesh and Musecores, but Bingham elter "Coylon" as the only locality for this species. The present race, harmoond, is the South Indian race of this

Habits: This is a very rare species. It inhabits thickly wooded regions in the hills from low to moderate elevations. In habits are more or isse similar to those of the preceding and other receives of Necessia's.

#### Subfundy THECLINAE.

The sunfamily includes rebustly build builded be suffamily builded building to the sunfamily includes rebustly builded building and similding. The first wings are offents bleef, and because or more talk which may effort be about or lang. and either thin and threef-like or fairly. The ordinary in the ordinary in the sunfamily building and ordinary the sunfamily building and ordinary that the sunfamily the uppensive ordinary as map is thin or official ordinary that the sunfamily the uppensive ordinary to sings is thin or

## Genus Curetts Hilbert.

This genus includes medium - sized, often brightly coloured butterfiles popularly known as the Sumbonsa. The hind wings are not intied. The upperside in the mates is red with black benders, while is the final-is it is white or courge with black burders. The underside is glossy white in both the sense.

of: On the foresting the costs is arched and the turnors straight or scoothrase even algority concern. The apex of the foresting is more or less accusing pointed. The dorsum is a slightly strained used the forms is in the form of a sharply marked right magic. The coll

is about held the length of the wing.

§ : On the hind wing, the apex is blunt and obtase and the costs arched. The
terrain is rounded, convex and the terrain is more or less rounded or obtusely sealed.

The docum is slightly convex. The cell is about helf the length of the wing.

The automass are short, less than helf the length of the wing, without well defined.

club.

Of the three indian species of this genus, only one, C. theirs Drury, is represented in the Museum collection. One specimen in the collection, labelled C. asseptor

in the Museum consoline. One apocumen in the consoline, industried c. designer Fabrician, is also correctly referable to C. Stelle, na C. desequas Fabricius, is a synonym of C. Stelle.

## Ouretis thatis Drury.

OXVII. Sgn. 6 & 7.

Specimens in the collection: Dight, four makes and four furnitor; 35 mm. One make specimen is from Coorg, and another made is from Malabar. The locality of the remeticing aspecimens is not recorded. The annihut specimen (36 mm.) is 4 mm. smaller than the miximum recorded sequence.

Description , of . The supervision is start's trick and, highly glossy. On the formed with the law is so convey with starty peach. The cost laud stimutual startings are becomed with black, this booter beauthering considerably over the spicel error. On the hard wing the base in concern with study sensits over wide area. The color and downst mergins been a broad, pask, stratest within, bond. The termen is convoxyly beckered with black. The conversal is because and oversited dark these mobile lives are made to the conversal of the color and oversited fact for the color of the color

9. The opposition is white with broad, dark bonder on both wings, these bordies their particularly bond in the was reason forme, reducing the ground control of decid problems of white. The opposition of the hard wings pube deadly believe with a market diseast problem and a dealers, bond becomed halved, seek problems deadle on the control of the dealers, bond becomed halved and white the white diseast period become ming their thinks a counted paid to beyond which is the white diseast period membered above. The sunderside is as in the mode, but with the modelings more included.

The antennes, head, thorax and abdomen are dualty black, the antennes being reddish at the open.

The present aperimens belong to the variety against Moon, which is the trained

South incline form recorded from Malaber and Assumabil Hills. The ground colour in this form is alightly polar than in the Morth incline form.

Expanse : 40 -48 mm

Brown : Codes Perinada Della Invest in desert restonal James Report Recent

and Jens.

Mattin: This apocies is widely distributed over Coylon and Persissular India in the section regions. Their flight is powerful. They often back in the sunsalains with the wings partly open. The make frequently settle on the higher branches offeres while the females reason in contrast and beautiful processing of the processin

In the plates or on the bills at low sittledes.

#### Genus Isseta Moore.

This genus includes bright, glossy blue butterflies of medium size, popularly known as the Silver, attends flices.

Only a single species, instit timeless (Stell) is recorded from South India seel tips in

## Iracta timoleon timoleon (Stall). The Sharedonk Blaz.

Plate XXVII. fig. 8.

Specimens in the collection: One; the edges of its wings are badly damaged and frayed out and its locality is not recorded; 40 mm.

Description:  $\vec{O}$ : The unpermise is lateful closer have or recentable has with bounds.

black bookers on both the wings, this black broke bring sepocially well mained over the space of the forevering. The suderciside induct mobile brown with a shrowy white street in the cell of the firewing and a series of sloved upots. The underciside of the kind wing is generally ordroven bown insenses the magnit, and unsulty bears a bound, trengular street over the board seess this attents works from abovey white to reddeln brown. Faller of perspectively any present on the fidenci leave. The black wing is taked at the broadcastion.

9 : The upperside is duck bown with the discal patch glossy purple on the forestig. The upperside of the hind wing sometimes bears a small central patch of purplish neales. The hind wing bears an additional tool are win? The underside is simplish to that of the make. The purple of the discal sense is replaced by given bits that in the Bourh Indian mote to which the single specimen in the Collection belongs.

## Expense : 40 - 48 mm.

Range: Ceylon, Peninsular India, from South India to Meditys Pradesh: Calcutts, Lucknow, Shak, Assess and Burna.

Habbs: /This apoints frequent trees with dense foliage. Its flight is very fast, but it does not by lone distances at a stretch. It is especially common among the foliage of

Barryan which is can office food pieces. It is chiefly found at low elevations in hilly regions having plearly of rainfall. In the South Indian reco. the growy patches on the wings are precein in other them purplish. The larvae feed on the leaves and alocate of the Sanyan. People and Pomegrania. In the precent specimen the wings are no being failed that only turnes of the showy remembs underbes can be made out on the decel arms of the winner.

#### Genus Ambirpodia Horsdeld.

This genus includes a large number of species of brightly coloured butterfiles community known as the Oakhibea. Some of the species are smooth the largest and most one.

ore Builton, Michael Observational Macroen [N.H. VII], NO.1.
brilliantly coloured of all Indian specie of Lecentales. These builtiflies are easily

flattinguished by the upperside of the wings in all the makes being hellinning foreign being en purple towerpt in one species in which it is metallic green. In almost 40 the species, the wings here deals hosters, which are broader as the females. The varieties of the wings here deals hosters, which have broader as the females. But our sufferside of the wings he greyish or brownish with numerous dark upols. Most of the species are stated. This is a local sense of which should be uncertainties have been recorded from the beliefs.

region. Most of these are from Stikkim and Associa area. Some extend assultments to the Wastern Obets and Copiest. Only two species are represented in the Museum collection. Amblypodia amentes assumes Heatton. The Learn Outblish.

#### Plate YOU'D for 0

Specimens in the collection r. Two, one from Mynow and the other from Nilgrin (3) non. Description r:  $g^2$ : The supported is intilized, desir, whiching this, with a merror black border abord one millimetric in width. The collect on the Reversible is widely arched, the transmit is straight and the does an eligibity conceively arched. The apex is more or less excite and contile.

 $\ensuremath{\mathfrak{T}}$  : The upperside is poler than that of the male, with the black borders much reader.

3 9 The underside is greyth or greyth bown with brown spots and bands of spots arranged in a characteristic neutron. The underside of the hind wing bears a patch of diffuse mostle ligram scales on the torans. The hind wing is lobed and toiled. Expense: 45-57 mm.

Sample: The range of the species as a whole extends over Coylon, South ladia to Modbys Fradeah, South Blazz, and also to Assan and Durgas. The race scramies is the broked North Indian from a shirth in content accelerate before:

Hobbs: This is a large and handscrarely collowed species of the hills no learning. It is one of the longuest and most lettinisty colorest species enough the River (species) and the lettinisty colorest species enough the River (species). They are nontrivid entirely to the jungles or to shooly and admirted standards in the victory of the jungles. They have moved to moderate elevations where the mindel is heavy. They are movely found latting several secretary where the mindel is heavy. They are movely found latting several secretary in the second collection of the second collection of the second latting and they do not by most by the wide by the year. It is not to be a second latting and the second latting

#### Amblypedia bazaleides Hewitson. The Textil Onkblue.

### Plate XXVII. fig. 10.

Spectrees in the coffeetien: One, with the left hind wing mutilated: 40 mm, its exact locality is not recorded.

Description:  $C^{(-2)}$ : The costs on the forwards is boundly unched, the former more

or less straight and the domain slightly concase. The spec is potential. On the bird using the termen is convexly recarded and the domain slightly convex.

Of: The suppression is purple, and the forwing beam a narrow black border about

2 to 3 mm. wide at the aper and tourses

9 : The uncomble is purple, but pairs then in the male. The dark border is about

4 mm. wide along the drewiss and very bound at the apex. On the hind wing, the cell is purple.
O ? : The underside is dark chocolate coloured with the apex of the forwing and

b. I are sender reason as earny conceases consume with the specified the forwing and the region inside the waxy manginal line and below wint 5 on the fined wing overhald with while scales. On the ferroring in interrupces 3 is a discall spect confinent with the spect at the earl of the cell. The markings on the undensitie of the ferroring are boiledy outlined with white. On the workyralds of the brief ways, the beast certain and therefore involve the second contribution.

were ware. ... on one underside of the hind wing, the benefit central and disent upole to interespect 7 and 46 = 90 in Interespect 6 are conspicuously chocolate-coloured. Separate 1 44 = 47 mm.

Name: 1 Western Others, Assaul to Forms.

Nightin: This species is very men in South India, where it is confined to the densely

wooded parts of the Western Chain where there is plenty of minfell. But it is said to be common in the Nega hills of Assess. Its habits are more or less similar to those of the preceding species.

Genus Lexura Monded.

This genus includes bright, orange-yellow butterflies with the hind wing produced

and ending in a comprison to the grown, same one that wing produced and ending in a comprison to the transfer are popularly known on the Yanglies.

The single insian species of this grown, known one was it moved in represented in

the collection by two rooms, negrects or using gream, London's copyrings re-emitted by represented in an electronic state of the collection by two rooms, nearbys, the typical filters, London any such across are such Moore, and Lonson supervisor surper Moore. The latter is distringuished from the former by the uppersides being dork brown instead of carange, and the forwaring bearing a discal contract of company.

## Lexura stymuus arcuata Moore.

## The Yazzily. Plate XXVII. fig. 11.

Spectment in the collection: Two, of which one is from South Coorg, 36 mm. The locality of the other assessmen is not recorded.

Description  $i \in \mathcal{G} \setminus \mathbb{Q}$ : The upperside is crange, the forewise bearing a broad, black border which widers into a wide, triangular patch over the spec of the forwing. The upper state of the border is accounted to the border is accounted. The upper state of the black is a discounter. The

hand wing is produced behind at the torsus which ends in a long tail.

The underside of the wings is much paler and yellowish with pale brown transverse bands. Only one of these bands in the post-discoil area) is distinct and continuous: the others within this are broken and observe.

Expanse v 35 · 40 mm.

Ringe v Ceylon, South fields, Orises, South Bibar, Central India, Histolopus, from
Massaurer to Assaure Bronzil and Burea.

Fishbia: This species is common in places with plenty of minisk at low elevations.

It is common especially in bernboo jungle. Its flight is weak, and it actives frequently on
the leaves and stems of low basiles and trees. It often fixe close to the ground. This

apectes to subject to considerable varieties. The fixed plazet of the larvae is a species of Yann, hence the pepular name Yandies. The larvae are attended by sed ania.

### Lexura atymmus surya Moore.

### The Yearly.

Plate XXVIII. Sg. I.

Spectrorus in the collection / One Tribuzzirum, 92 mm.

Description  $r \in \mathcal{C}(\mathbb{Q})$ : As mentioned above, in this more the upperside is blackish become with a discul one lorency yields patch on the forestiags. The upperside of the hind wing is produced to the formus which terminates in a long tail as in the preceding race.

The underside is uniformly pale yellowish with only a very faint indication of a transverse, narrow, post-discal pale brown band.

The expanse of wings, range of distribution and habits are more or issue the same as that of the typical form described above. More spectarens have to be executed before the identification of the renewant accretance one is confirmed.

#### PLATE XXVIII

- Fig. 1. Lonnes etgennus surjex Moore (natural stee).

  2. Spindosis sulosmus sulosmus Fabricius (natural sises.
  - 3. Solvalous achievana achievana Moore (patural etra).
  - Sphylianis schietanea schietanea Moore (part
     Selecionis intis intis Headings (natrual size).
    - Spindasis icils icils Hewitson (natrual size).
       Spindasis ichtta lauskrite Moore (natural size).
    - Zentur chrysomolius Hübner (natural stee).
  - Tujurki oʻppus oʻppus (Pabrictus) (male, matuind alze)
     Tujurki oʻppus oʻppus (Pabrictus) (female, maturid etze)
  - Cheritra freju juffra Butler (natural eise).
     Robbindo esser (Esbeletunity 1 M).
    - 11. Cataporcelina elegana musellona Fruhetoritr (astural star).
      - 12. Desdoryx epijarbas epijarbas (Moore) instural else).



#### Germa Spindaria Wallengren.

This seems includes dark brown butterflies popularly known as the Silverlines. The secure like of the whom is duck because with or withhold beauty markings on the forestons. The make usually bear a brillant deep hise abeen on the upperate of both the wings. The wings of the females do not bear this closer hastre, and the ficewings to the females are broader and more rounded. The undersade in both sease is pale coloured with darker boned been with effect enjoyed centres, but in the dry season forms these been may be reduced to mere narrow silvery streaks. The hind wings are tailed at the terminations of

wins 2 and 1 h. These butterflies inhabit simest every part of india, and may be found in thick turnie as well as to seen plates and in dry as well as set restore. They ascend up the bills to an a littude of \$000 feet. Their fight is extremely rapid, but they frequently settle on damp untrines of ground, resting with the wines aloned over the back.

Although about half's dozen species have been recorded in South India and Coving. note four of them are represented to the Museum collection.

Spindagie volonous vulcamus Pabrichas.

#### The Common Silverline Plate XXVIII, Sr. 2.

Specimens in the collection / One. Coopy 34 mm.

Description: A 9 - The conversitie of the wine is dark home with constitutions black-spotted, counse-vellow, transverse bands. In the male, the upperside is faintly sufficient with a littable store, and to the female the leaders coloured analysis is absent. On the upperside of the hind wing the turns) area in bright vellowish with two consulcuous

The underside is pale vallow with prominent black-bordered reddish bands. The the underside of the hind wing beam a continuous outer based street and a spot beyond. This streak may be absent to the dry sesson form.

meroded block marrinal erods. Expense : 26 - 34 mm.

Range: The species unforms ranges over the whole of India and Ceylon, but the present more, sufgarass Pabrichus in the typical South Indian form.

Hobbits : This is the commonest species of this genus. It is found all over India except to the desert regions and it ascends the hills up to an attitude of 8000 feet. It is generally found prescriptus to open plains and anguely appoint localities. It often settles on icrons and fowers in partiess. The larger are attended by tree ante of the senue Commissioner, Bell has elbern a dood recognit of the early states of the life blatter of this

#### Entertasis arbistanea arbiteanea Myorr The Physikenus Stherites Plate XXVIII. Sr. S.

Specimens in the collection / One, 32 mm. The wines of this appiners are unfurturestate harfly term and the exact locality is not recorded.

Description - of - The unweight is dark brown, with the orange willow areas on the forceding more restricted than in the preceding species. The entire surface of the freewing to auffluent with dark equips. The supportate of the hind wing is abot with blotch

9 The upperside is durk becam with connect areas on the foresting. The upperside of the hind wing and the area near the donurs on the upperside of the forestor are sufficied with leaden-coloured scales.

The underside is more or less as in the preceding species, but with two complessors, velors, strated. Black, munded marrined south over the turnal area at the laises of the talk of the hand wing

Emone : 25 - 37 mm

Russe / Caylon and South India. The species achterpore is recorded from Caylon and assured breakties to Bestrauber botts. but the research race relations on Moore in the typical South indian form occurring especially in the hills, including the Nikiris. It is

Highlig . This species is wealth distinguished from the other appoins of the renus by the blaish gloss on the appende of the hind wing of the male being lighter. Its habits are more or less similar to those of the preceding species.

> Spindasis jetis ietis Hewtoon-The Common Shot Silverline.

Plate XXVIII, fig. 4. Secretaring in the collection : Two Plantinions 28 mm. One of those is hardly demanded Description ( C 9 : The upperside is brownish, shot with blue, although it is

field to a proform dull brown to the present constraint. The unperside of the financial bears a well-defined triangular grapes patch. In the male, on the upperside of the of the wangs to overledd with leaden ecoured acades.

bars, the outer basal band emong these being broken into three apots. The markings on the waderable are more or less stroller to those of the two vercedted arentes.

#### Emasse / 27 - 35 mm.

Name: The range of the species as a whole extends all over ladia and Covice, but

Mabile / This species is locally common being more or less restricted to the more open nisting and hills at low elegations. It does not us a rule frequent focust or well provided localities, but is found more especially in the drier regions. It is widely distributed

arrectes, exhibiting considerable amazonal and including varieties. Smindarie lebite lambarie Moore

#### The Lone-banded Silverline.

Piete XXVIII, fac. 5.

Specimens in the collection . Two, 22 mm. Of these, one is budly damaged. Their sauct locality is not recorded, but both belong to the race innularia Moore, which is the

Description : A C : The conventile is dark brown, without counte nutrities. On the upperside of the hind wing the tornal area is bright vellowish counts, bearing a recorded black and and another much couler black and close to it exertinally, at the have of the tail. In the male, the upperside is brown, shot with blue, but in the female, tt is untformly dull brown.

The underside is creamy vellow or darker, varying to circummon red, with the bends surving from red to black. On the underside of the forested, the basel markings country of a bar across the cell connected to the base by a parrow streak above the cell. On the underable of the lated word the outer basel hand is continued about win I h and in

## Eventure 1 30 - 42 mm

Stance . The recent of the spectes as a whole is while, extend for over Northern India. from Musecorie to Assem and Burma, Calcutta, Ceylon and South India, but as mentioned above the present more localoris Moore is the typical southern form occurring in South India and Crylon

Hubbs: This is a traical species of the forested sons inhabiting thickly wooded rectors having alenty of minfall. It is a sunshine-loying species, especies of flying very waith. It frequently settles on leaves and flowers. In the Himsleyes (where the northern form of the species present it is found on to an altitude of 5000 feet. It is very common in the South and North Cenare districts where the minds is too beary for other species of this serves.

#### Gentas Zeelas Hilborr.

This guess includes the butterfiles possibily known as the Redepote. The upperside is restitish became with the hind wind bearing two red-constraint black again over the torrows. Only a strute indian species is known, and this is represented in the Museum reflection. Zostus chrysconallus Hilbour.

#### The Redspot.

#### Plete XXXVIII for fi-

Specimens in the collection / Two, rather hadly preserved executions; ore of these is from Trhondown and the other from Malaber, 35 rem.

Description / of . The uncertaids is conservered finded in the present appointment into a dark brown) with a narrow black border. The upperside of the hind wing bears two tormed black mosts extend with red. The hind wine bears two tade.

2 The upper nurface to pale blue with dark bown borders. The bind wing beam termed amonto our by the reads, best hour thorse totle.

of 9: The underside is pale grow with a discul band of loosely connected apots. The

Emanue / 26 - 44 mm.

Range: Ceving and Pentagoing India. Also Northern India, in Berumi, South Bilbar next Origan

Habits: This is a widely distributed species occurring all over Pentraular India and plenty of mindell. Its flight is excid. The moles earlie on leaves and eterms high up on the bushes and trees. The female is more retiring and seldem comes out of dense foliage. The incree are associated with red ants, and often deveur other larges of the same species.

#### Carron Palenta Moore

This serves irrelates made sizely large butterfiles considerly known as the "Browle". The upperside is birthin, broadly bordered with black over the apical and marginal accouof the forested, the bias is usually duller and male; to the female. The underside to generally pair grey, white or brownish, beering an outer discal parrow band. The underside of the hind wine bears two connectrowed black erects at the terms. The hind wing bears two thread-like tails.

Although about severteen species are known to lodio, most of them are condined to the Assem, Sixkim and Burms regions and at least about helf dozen of them are very rare. Of the three species recorded from South India, only one is represented in the Museum collection.

### Tajuria nippus nippus (Fabricias).

# Plain XXVIII, Ago. 7 & A. Spectrums in the collection : Three, nother proofs preserved; one is from Malaber, but

the bondity of the other two spectmens is not recorded; 36 mm.

Description:  $\vec{O}$ : The upperside is dark closer diversible blue with the open benefing

a broad, black patch.

2: The appearable is groyinh blue, the blacks area being more extensive on the

forewing and becoming whitish distributed on the forewing.

of S = 0 in thing as light become or with the long halm only being white. The underside is pole grey, waying to almost white. On the underside of the forewing, the outer cheek like is inserve to the termen than the tip of the cell, and is interrupted or exceptione street. On the underside of the high wing the outer cheek, and the latter representation of the control of the control of the control of the outer cheek.

Expanse : 31 - 45 mm.

wins 3 and 4.

#### Range / Ceylon, India and Buresa.

Habits: 1 This species is found almost compythere except in day and desert regions. It clothly triabilits low elevations. It is foliand wherever its food plant, Locastins, govern in Copius, this species has been found in orange and time plantation where the trees become indexed with Locastins. The makes visit flowers. The present more, cippus is the typical Southern form.

#### Genus Cheritra Moore.

This genus includes don't become butterfiles populately incomes as the important. Each of the hind wings, beam two table, a large can and a shocker case. The uppersible is durk become within a partie large in the laste. The latest wing beam a complexous white local series bearing blacks specie. The undersible beam black than at this rest of the cell, and the latest wing beam closed and outcome parties them a latest when the cell and the latest wing beam closed and outcome parties them as when the cell and the latest wing beam closed and outcome parties them as when the cell and the latest wing beam closed and outcome parties them as when the cell and the latest way to be completely a second outcome the cell and the cell and

hind wing bears discall and submarginal lines and black ternal spots.

Only's steple indian epecies, the Common imperial, is known, and this is represented in the Masseum collection.

#### Cheritre frejs jeffre Butler. The Common Imperiol. Piete XXVIII, fig. 9.

Spectrums in the collection: Two, Transmoore. One of these spectrums is incomplete, with the right forwing missing. The expanse of the complete spectrum is \$1 max.

Description  $\cdot$  of  $\mathbb{Q}$  : The upperable is durk brown, tinged with purple in the main. The formal area of the hind wing is white, bearing block apple. The upperable of the focusing is uniformly durk brown, unranked. If the underside is white to pake brown, with third hear at the ends of the cells. The underside of the bind wing bears discale and approximately like a set to be a set of the cells. The underside of the bind wing bears discale and approximately like a set to be set of their next a whole are consequent with whether the set of the cells.

hind wing bears a long tool about 22 mm. long at vein 2 and a shorter one about 5 mm. long at vein 1 b.

In the present more, juffer, which is the typical South lanker more, the white area on the upperside of the kind wing is more extensive, and the discal line on the underside of

the forewing is regular and continuous.

Expense : 38 - 65 mm.

Borne : Croken Swith Irolle, Western Obels, Himsleven Kurmen in Asserts Burme.

This is the range of the entite species, but the present race Jaffin is the Southern form.

Hebbin: This is essentially a hill species, being confined to thick jungle. Its Hight is weak, and it usually keeps to the edge of jungles. Its South India, be present roce, Jaffin, is confined to the Western Chain and other hills in South India, up to an abitude

#### Genus Rathinda Moore

This genus includes somewhat small, dark brown butterflee, inhabiting thickly brested regions. They are popularly known as the Monkey Puntlee. The upperside of the forewing is marked with small spots forming interrupted bands. The single inflam appeals of this germs, Rothinda arms (Phinting is represented in the collection.

## Rathinda amor (Pubricius) The Muniory Puzzle.

Plate XXVIII. Sc. 10.

Specimens in the collection · Four, three of which are from Ganjam, Madraa and Threadrum; 27 mm. The locality of the fourth specimen is not recorded. The specimen from Triumfurium is travelepted, the wings on one side having been damaged.

Description:  $G' : \mathbb{R}^n \to \mathbb{R}^n$  : The uppermide is dark brown. The uppermide of the forward bours a spot at the and of the cell and unually smaller spots to interspace 2 and 3 forming

The underside is paler, varying from dark vellowish beyon to almost plain white; on markings, and the discal area a curved white line.

The underside of the hind wing beam irregular dark spots and lines and a alivery magnitual line. The hind wing beam three tails at the terminations of veins 1, 2, and 3,

Of these the middle tall is the leasure Emasse: 28 - 28 rem.

Roses: Covien and South India. In North India this species has been recorded from Habits. This species inhebits heavy funds on the pining or in the footbills at low

elevations in regions having plenty of rainfall. Their flight is weak and unsteady, and always close to the ground. They frequently settle on leaves in the undergrowth. The tures is peculiar in being covered with long, fleeby outgrowths.

Gerrus Catamoereilissa Butler. This eems includes purplish blue butterflies with dark apical areas on the forestor. and commonly known as the Timels. Of the three known indien species, only one is common and found in South India and Covion, as well as in the Assem area, and this is

represented in the Moseym collection by the South Indian mos-Catamoeralima electora myositina Frubstorier.

#### The Common Timesi.

plate XXVIII. fig.11 Specimens in the collection / Two, one of which is from Coopy and the other from the

Miletria: 30 mm Description . O : The appendide in dark violet-blue, with dark borders on both the

wines, the burder over the coloul area of the forestort before broader and more extensive. 9 : The upper side is poler, with the dark borders on the wines broader.

of Q : The undecode is greytch boom, with irregular block and allow-edged brownish willow bands and coots. The hind wind bears three tails at the terminations of wire 1. 2 and 3, the cabble tot better the beneat.

Empres : 25 - 32 mm.

Parager This spectes has more sires the same distribution as the preceding species, being from the Cogless. South finis, Outson and in the Himsdaps after Missaccer to Assess and Burnis. But the precent race, supartice Fruitscheier, in the Cogless and South tortion race.

Hobbis of This species in found in thick as well as open jumple in hilly areas up to an

altimate of SCOO face. In slight is fairly strong. It floopmently settles on here being, but never visitia (Sowers. In 6000 facels, this people is reported to be beenly reconsor in the Nigrisbetween 2000 and 4000 feet, and is the Silverory Hills Hill send to be evanuated in the vosing partitibities where it depurptly settles on the leaves. The forestess are the cease that are most floquently area, the makes being racer writing in their heldin.

#### This evenue includes butterflies with the upperable of the wines conspicuously

reddish with dash brown borders along the costs and terman. They are popularly known as the Convaliant. The costs and immens of the forestig is more or less articiple to that the forestig is made or less a single to that the forestig is more or less in the form of a attrictly articiple sated triangle. Of the two recorded bodies species of this genue, only one in fraund in South India and Cryfee, and this is represented in the collection by the typical South Indian rate.

Daudoryx epijarbas epijarbas (Mocce).

#### The Cornellan. Piete XXVIII. fir. 12.

Specimens in the collection r Sta, mostly from Triwardrum and South Coorg: 36 mm.
Of those, two are females.

Of these, two are tension.

Description:  $\mathcal{O}:$  The upperable is red, with the foresting bearing dark brown
horizon on the contail and terrutual magnitus. The cell is marked black. On the unrescript-

of the hand wing the based portion of the costal area to dark.

Q : The upperside is brown, with the discal area on the Serwing usually paler.

C 2 The underside is brown, varying from pale brown to durk brown with broad bursts in the cold edged with white, and a whote-edged burst on the discal area. The hand varie been a single, dender tall at the transamen of verit 2, and on the underside, bears a black aport in therespace 2, anteriod with a pulsor ring.

Equase : 34 - 44 mm

Nazye: The range of the species as a whole cotends over Ceylon, through out ladis, except in the very dry regions, and Burnss, but the present race, optionless, is the hydical

Southern from.

Nothern from.

Nother This species is widely distributed, being found both on the plains and on the hills at low cleveliers, in well wooded areas as well as ones country. Its fight is very

Description Casalogue of the Businellies rapid, but the males as well so the females frequently yield flowers and settle on patches of regist streams. The largest are found on various findle such as the Proportionate

#### Genns Virnohela Moore.

This genus includes butterfiles which are fairly large among the Blues, copularly known so the Crown Rhen, on the Crown to one of the fivel plants of the large of the agentes belonging to this genus. They are dull violet-blue on the upperside, with the costs and termen of the foreign more or less simirful and the oney rather bloot.

Of the two Indian exectes (both of which are known from South India), only one.

#### Viruchela inocrates (Fabricius). The Common Guess Bloc-

Supercorpus to the collection: There folds and temperary aspertorms: 41 mm. Turn of them are from the Migiria, while the locality of the third one is not recorded.

Description : of : The upperside is duli violet-blue, what with a brilliant suffusion of the same colour. The upperside of the hind winz bears a sex brand. 2 : The appearable in brown, the area towards the end of the cell on the foresting

being during beyond this there is an occurs discul natch. The uncertain of the hand wing bearn a conspicuous block to mal spot in interspace 2, crowned with an orange natch. Relicer this block exot, there is a faint indication of another similar black exot, but this is more institutions. These are much larger than the makes

d ♀ : The undecode is pule grey, with the markings slightly dealer greytels brown. The discul band on the underside of the forewing is simight. The hind wing bears a Expanse / 34 - 50 mm.

Ronge / Ceylon, India and Burma (Northern Shan States)

Mobile - This species is which distributed and is commonly found everywhere in india except to the very dry, desert regions. It is most alwaydard in the open pistus having scarcy minfall. Its flight is entrangly moid and powerful and the worm our often duraged when one attempts to copture them and keep them alter. Both make and females visit flowers and are most frequently found in Guess and Properturate significance. The Guzza (Polifices guares) is one of the commonest food player of the laywe of this aperies. Bell has given a very detailed description of the early stages of this species in one of his period articles on bufferfly His bistories to the Journal of the Bombey Noticeal Mistory Society. The larves see found traids the fruits of the food plants.

#### Gerras Remaie Moore

This events includes brightly coloured species of medium speed butterfiles remain by known as the Finales. The upperside of the wings is of varying shades of red, blue, brown or purple, and often of a brilliant has in the males. The borders of the Scowing are dark. The hind wing is lobed and bears a slender tail and a tornal anot. The make have a circular any board on the unremakle of the bind wine and there is a corresponding bull ca the docume of the forwing close to II, but this tuft may be occasionally absent.

These butterflies normally inhabit hilly country wherever there is plently of minfall, but a few frequent the open pistre. They are found on bushes and leaves and often visit Growers. Their flight to your racks and straight Although there are about stateen species of this grows recorded in India, most of

them are from the Assem, Sikkim and Burma Zone. About three species are recorded from South tedia, but only one of them is represented in the Museum collection. Repuls melampus Courses.

#### The Indian Red Finels Plate XXIX, fig. 2.

Specimens in the collection: Two both makes: 35 mm. Their breakly is not recorded. Description : of : The upperside is briefly red, brilliantly abot with purple (but this purple auffusion tends to fade badly in preserved specimens, as in the present ones). On the formulas, the costs, spex and termen are rether broadly bordered with black. The terrained black bootles studies by arrows shown to the terrors. There is no black bootlesters on the documen. The unwestede of the hand wing is completely red. The hand wing bears a labe restricted, which is consist with resease, metallic-relevant avales, and a slender

- 9 . The conservate to red tish, but reach nater than in the male
- of 9 . The undertake is above ever. There is a labely tornal anot in interespece 2, but this is not conspicously cowned with crongs as in some of the other species of Rapain.
- Emerge 33 35 mm. Range / Crylon, South India, Somboy, Riber, Orlean, Kutch and Kumano, Alexdoubtfalks recorded from Sikkim.

Highlight This is a common execute found widely distributed throughout Pentosular India and Northern India award in the North East and in the Jesus regions of the month. It occurs more commonly on the plains then on the hills, in the Hippipons, it is mainly rest with in the lower elevations. The conversals of the wines to the realist reasonables that

### PLATE XXIX

Pig. 1. Vinuchola Georgian (Paletrina) (settural aire).

2. Rapala resistançus Crazace (settural aire).

3. Situdalaren placeldes moorel Prulistrafer (settural aire).

4. Outconcentus airen.

Celescorthous fracocers featureers Kellifer (natural size).
 Togisdes obscurus athor First (natural size).
 Togisdes obscurus athor First (natural size).

Topicales httphose organes Productorier (natural size).
 Colodonie dan dan (Fabrician) (natural size).
 Colodonie indresi indre Evers (natural size).

Topens throatest hompoord Elwes (natural size).
 Odonloptikan organizatur Pckler (natural size).
 Growns communicil authores Houtlann (natural size).



of the males of Deadoryz epijorbay described above, but the undersides of the males in these two species are quibe different.

## Genus Rindshara Moore This persus includes dark coloured, medium-steed butterfiles, necessarily known as

the Plance. On the feresting, the costs is broodly stoked and the termen straight. The termal near and the full in the bind wing are wister.

A single indian spectes is recorded, with two reces, one of wistch is confined to the Stakins Plance over which the offier is fround in South linda and Ceyfon. The bitter slove is represented in this clubetion.

> Bindabara phocides moorel Frushicefer. The Pieze.

 $\label{eq:problem} Plate XOIX, fig. 8.$  Specimens is the collection r One, Nilgiria, 31 mm, This is 7 mm, emailer than the minimum recorded expense.

Description  $r = g^{\prime\prime}$  is The upperside is shirty black. On the upperside of the band wing, the tornal area and the long fluidy tail are yellowish while the outer snarght of the tornal area is coloured bright metallic black. The undentite is wellowish brown.

? - The upperside is brown, the tornel sees of the hind wing and the ball being white. The tornel area of the bind wing bears a large black spot in interspace 2. The

underselfe is while.  $g^{2} \otimes \mathbb{R}^{2}$  in underselfe of the forewing bears a broad dark discal band and a band access the cell, which is dark brown. The underselfe of the hind wing bears an irregular

Exposse: 35 - 42 mm

Runge : Ceylon, South India. [This is the sauge of the present mor, moure].

Mabin: This species is confined to thick, evergiven jungles wherever there is heavy minful. It is commonly found in the well-wooded alopse of the Western Glaste and the Milgain, and in the hilly regions in Cepton. It flies repitily especially severally returned to two and trees, and the makes deep centryly yield flowers.

### Family HESPERIDAN.

Family MERPERHIDAS.

This family includes small, dark brown butterfiles, popularly known as the Skippers.
They are generally aposted or bunded with white or yellow. These marking are often
translaters. Their buffers are natural and attentib buff and accomplished being almost

reseastle mothe. Their wings ere strongly built and their legs well developed. The antennas are set wide a part and are either hooked or thickly clabbed, topening to a point at the tip. The head is very broad, heing wider than the thorax.

The eggs are done-shapped, and usually longitudinally ribbed. The larges are cylindrical, generally greenish, and live in cells made of leaves.

crouse little immerginant always root on the under surface of leaves.

Stippe rance essentially insects of well exceled areas and are found insect abundancy in the high regions of North East Install. Assess and Burna. Note of them I/o only in the only meetings, and again to the evenings (respectable). They usually with flowers, beeing on the notice, or eithic no lesses of frees or basels, or or oldings position of the ground. They are extractly rapid in their flight, and see this side to would believe to the region of the side of the contract of the side of the s

Although numerous species of this family are known in India, coly a comparatively few are represented in the Museum collection. Much more intensive collection of this group will have to be undertaken for filling up the gaps in the existing collection. This femily is divided into mumber of submillies, based on fairly seally reconstantly.

external characters. All the nine subfamilies of the known indian Skippens are represented in the Museum collection ablicugh some of them are represented only by a very few species.

## Subtamily 1. CELAENORRHINAE.

The subfamily includes the Shippers popularly known up the Plata. They are dark beam, small, or medium-stand batherdies with white or yellow are three present methings on the forwings. They reat with their wings special out horizontally against the surface. Their flight is regist.

#### Cenus Celesnorrhinus Hübner.

The characters are the same as those of the subfamily. About three species are known from South India and one from Caylon. But only one of the South Indian species is represented in the Messagn collection.

#### Celarourthinus legapores legapores Kulther.

#### The Couumon Spotted Flat Flate XXIX. Sp. 4

Specimens in the collection: Three, two of which are from the Pulmey Hills and one from the Nilgitin; 41 mm. This is 5 mm. another than the minimum recorded expense. Description:  $c' \in \mathcal{C}$  1 The upperable is dark become with a broad, decail, white, expiritually come band consequent of connected notion on the furnishes. There are the other contributions of the provided that the contribution of the con

of the cell and in interspose 2 are large, squarish and connected. Small apical white spokes are present on the superside of the feetings, 1. The superside of the hind wing been a few fluid, exhibit, which is pict. The office are chequened bright enemys and brown The small point closed potent are cooperated under designed bright. The surface of the wings are dark brownish and bears the same markings as on the upperside. The surface of the wings are dark brownish and bears the same markings as on the upperside. The surfaces of the wings are dark brownish and bears the same markings as on the upperside. The surfaces on the main are write. While is the feasible they are brown, with while dals in

## Expense: 45 - 56 mm. Range: The mage of the species as a whole extends from South India to Bengul,

wastwards up to Bombay, northwards to North India, and in the Himsleyes frem Kashadr to Assam and Barma. The present race feaconers is the typical South Indian form. (Subtle 17ths aconies. like the other members of the group. frequents obsisted and

sharly places in thick jumple in hilly regions having plenty of rainfall. This is the roost widely distributed species of the genus, being found in the wooded alopse of the hills up to an altitude of 8000 feet. They treparately even on the underside of leaves. Genus Taglades Holtper.

#### Butterflies of this series resemble closely those of the preceding one, but lack the

pressions white desail har and ere popularly known as the White Fish or Sour Fish.

They are normally desix boom, which much resultaneopered spoke on the foorwing. The
uppermiss of the bind weigh either picks, or more usually, with a more or less extensive
white cornal scen. The underside of the hind wing is mostly white.

Of the few known inciden species of this girous, three are expressived in the Nuseum

collection. Two of these occur in South India, while the third, found from Meditys Products sectionaris, has only been transitively identified.

Tartiefee Observar at the Protr.

#### The Suffused Snow Flat Plate XXXX, fig. 5.

Spectreess in the collection: Three, two of which are from Cochin, and one from the Nilgiria. 42 mm. This is 3 mm. less than the minimum recorded expense.

recognize to each. This is a local, uses upon the tabilization recorded exposure, where  $\mathcal{O}_{i} \otimes \mathcal{O}_{i}$  is the upper label to black his bown, often finded into bown, with three or freeze upload engineering animal state data on the foresting. The upper side of the birds wing beans a surface of black hand purpose black has a recover in the female) and also hall discuss the corrections of the size of the size of less in an exercise of the size of the size of less in an exercise of the other upper side of the size of less in an exercise of the size of the size of less in an exercise of the size of less in an exercise of the size of less in an exercise of less in an exercise of less in the size of less in the size

the hand wing see normally brown.

On the undecade, the Soewing is dark brown, but most of the hand wing is whitish
Execute: 45 - 50 mm.

Brown - South botto, up to North Carsen-Staking to Assum and North Burges. The present race, other Plots, is the typical Indian race of the species.

Mobile : This arrestor is confined to beauty wouldn't restore on the Mile. Their Debt is fast, but they excely venture out from the heavy shede of the thick tangle. They frequently writte on the under able of leases. More much, they yout finance, Taglades attique attique (Fabriches).

#### The Common Snow Flat. Plate XXXX fig. 6.

Spectrums in the collection : One, 45 mm. Its locality is not recorded. This is not a South indian species, and the identification of the powent specimen is tentative.

Description: of O : This species closely resembles the preceding one, but the unnerside of the bind wing lacks the blook over suffiction on the margin, characteristic of the preceding species. The upperside is dark brown, and the forewing bears discul. senitrapenaring white spots. The upperside of the hind wine bears black discal spots. but not arranged in an even curve. In the present specimen, these spots are obscure.

#### Emana: 42 - 82 mm

Russe: Central India, Medium Predesh to Bengel: Hitzalawa, from Debra Dun to

Highlin: There are the sume or those of the precedings species.

#### Taglades litigiosa vajuna Probatorier.

The Water Spence Plan

Plate XXIX, fig. 7. Specimens in the collection: Four, Pulmey Hills, the Niights and Trivardrum; 40 mm.

In two of these specturers, the upperside of the bind wing is largely white, while in the other two, this area is yellowish brown.

Description of C. The consensate is bitraktab brown, Serior to durk brown. On the forewing, there are sensitransparent, small, white discalapots, inner apicalapots, two spots at the end of the cell, and a costal erot above there. Some of these erots may be absent in some specimens. The upperside of the hind wing is mostly pure white, except for the costal and assist area which are of the dark brown ground colour. Prominent. of the specimens in the collection, the while is replaced by willowish brown on the hind stoc

The colour and markings on the underside are more or less the erms as those on the

Erronne - 37 - 44 mm

Range: The proper of the species as a whole estunds over Ceving. Peninsular India and the Hirredness from Sirvin engineers to Assert and Burren but the recent room natural

Fruhatorier, is confined to South India and Cevico. Nobits: These set store or less the some as those of Textodes obscurse described above. They are confined to about burdes on the bills, and are runable of ranki field.

They frequently settle on the underside of leaves or on blods' droppings. Germa Coledenia Moore This revus tocknies small to medium-steel, usually dark known butterfiles nonularly known as the Pied Fiats. The uppeccide is fulrous, dark brown or grey. The uppercide of the Secretar bears large, recolly appeared, white or vellow discal apote. The upperside

of the bird wine your Dr bears durk areas. Two excelles are recorded from South India; both these are recovered to the

### The Follows Plot Flat Plate XXIX for A

Specimens in the collection: Three, Molphur, Courr and the Nifetrie, 34 mm, less those

Description: if Q: The upperside is dark golden brown. The markings on the forewing countst of large, semitranaparent apota connected to form a broad, irregular closed barel as in Colorastribius. These areds are white in the female, and velice to the male. There is also a group of three almost confluent spots in the spicel region near the costs. The upperside of the hind wine bears sufficied thint, connected dark socta-

The colour and markings on the underside are more or less the same as on the

Expense: 40 - 46 mm.

Range . The range of the species as a whole extends over South India, and the Hitzalayas from Kutu to Assam and Rurma, test the present ovce due Pahronus, in the

Hobbs: This species is common in the wet hilly revious. It is not an exchangely confined to shorty, thickly wooded parts as the few preceding species, but comes out into the open more frequently and sometimes basks in the surelibre, certifier on leaves.

# The Tricolor Pied Fit

...

Specimens in the collection: One, 35 mm. Its locality is not recorded.

Description: of 9: This species closely resembles the preceding one, the

sentimenspecent while matchings on the feroving being disposed much so in the reposition. The resemblence is record relicing in the present new, todo treams, which is the Bouthern new. But on the upperside of the first step, the black spots are apparete and well marked, and there is a marginal cost of yielder, opensus system on the upperside of the first step, the black spots are apparete and well ferresting. On the underside of the hind wing, the black spots over the based sens are concentrated.

Expanse : 35 - 40 mm.

Range : The range of the ateciès as a whole extends over Device. South India, and

northwards to Bengal, Mussooree, Sikkins and Burma, but the present more before Rease, is the Scuthern more, confined to Caylon and South India, up to Bengal.

Highly: its hebits are more or less the same as those of the preceding species. It is

generally found on the hills of low elevations.

Octus Tapens Moore

This genus includes black of dark bown butterflies, popularly known as the Block Angles. The upperside is marrly black in the male, and brown in the female. The single Indian species of this genus, remarky, T. dissalant is represented in the Museum collection by the South indian more, havepored Elwas.

> Tapena threatest hampsoni Elwes The Black Angle.

Hete XXIX, fig. 10. Specimens in the collection ≥ One; Nilgiris, 32 mm.

Discription  $f \in \mathbb{R}^2$  . This upperside is mostly black in the male, but beyons in the manual. On the upperside of this freceive, there is a dark of diffused, central f whelped losar, is black splot more the bose of the cell and mar for between, and these sensitivanes, mostly a special f and f

On the undereids, the colour and markings are more or less similar.

Expanse : 30 - 35 mm Range : South India.

Highlin: This is a rare species, confined to the forested slopes of the hills in South indic. Its habits are more or less the same as those of the species of the procedural sense.

#### Genras Odontoptilum De Niceville.

This geams includes medium-sized bufferfiles with sugistic, pais brown whap with chestrant markings, and are popularly known as the Chestriat Angals. The upperside of the facewing bears semilimansparent wide tops, but the disculpacts are small, or absent. The upperside of the hind wing bear wide littles, which its undensities is mostly while, with scone dark merbrings at the termin and costs. Only a single species has been recorded in holds, and their increasement in the Museum collection.

#### Odontoptikum angulata Felder. The Chesterd Angle.

Pinte XXIX, fig. 11.

Secretaring in the collection : One. Nicrine 41 mm. The left forcestor is business in this

specimen

Description: of S. The winds are undular. On the unwanted of the formated the

inter perform is paid become which the conter thind of the surfaces be begind clostered. These are broad, direct and prote-direct chotenth broads, and a discuss with the content performance of the content perfo

Emense - 40 - 45 mm

Range: South India, and northweeds, throughout Peninsular India; Kulu to Bengal; Assura and Burres

Hobits: This species is most commonly found in hilly forested regions up to an altitude of 2000 feet. It prefers whethered, shady localities, although it wentures out frequently in the open seasables and visits forester. It transity rest on the under surface of leaves, but the edges of its wings see slightly turned down. Sometimes, it settles on the under of the control of the c

#### Genus Caprona Wallengoen,

This genus includes dark brown butterfiles with central and snarginal portions with the wings coloured golden brown. They are popularly known as the Gulden Angles. The

western parts of India.

upperaise of the forwing bears sentimmenters, white, discal and spical spots. The single inform species of this genus is represented in the Massum collection by the typical South India nos, posphera identiscs. There is considerable associal variation in these batterlies.

#### Capcona ransonnetti poliphees Hewitson. The Golden Angle.

Plate XXXX, fig. 12.

Specimens in the collection: Three, Mississ and Count 42 num. All of them belong to

proceeding species. The upperable of the forewing in dark bown, with the certain and marginal ware observed picture, whose, was those sentimespecies which large and assult discuss pools and a group-domestic designate, small, spical pools. The upperable of the hind what is dark bown with the certainly vibrosish bown con dicided by dark vibra. The understake of the hind wing in white, with beaut, discult and submarginal rows of

dark spots.

The Dry season form is similer, but much peles, with the vellowish brown markings.

reger and letter defined.

Exposure : 35 - 45 mm.

Surge: The range of the species as a whole extends over South India and Pestawalay India up to Madhan Pradesh, Punish, Assam, Surma and Covice.

Highlig - This species is common in thickly forested areas on the lattic in South India

on damp patches of ground, and also visits flowers and basks on leaves in the simulation.

Subfamily 2. HESPERIINAR.

This subfamily becludes mostly acceles being at high cleartions, in the dry, north.

Gerum Striebtus Brindunal

This garmay includes recall dark between Participals. The garmay includes recall dark between or generals between the instantenoperator spots on both the wings. These are the outlange Subgreen. Task is not subject to the precise of the disease of the precise of

225

#### Syrichtus gallas (Fabricius). The Indian Skipper.

#### Plate XXX, fig. 1.

Specimens in the collection: Four, two of which are from the Niightis, and the other two from Medice: 21 mm.

Description:  $g^{\dagger}Q$ : The upperside is dark brown, with numerous white semilerasquarent spots on both the wings. The upperside of the freewing bases as spot semilerasquarent spots on both the wings. The upperside of the freewing bases as  $g_{ij}$  and  $g_{ij}$  are the same grant of  $g_{ij}$  and  $g_{ij}$  and  $g_{ij}$  and  $g_{ij}$  are the same grant of the same power of the same power of the same power. The  $g_{ij}$  is insurface as the same forms.

a management of spots, but score of the spiteal spots are obsent. There is usually a spot at the base of the cell.

The underside of the wings is greenish brown, with rather a variable pattern of spots. On the underside of the hind wing there is a spot at the base of the cell, a continuous discussion of the cell and wing there is a spot at the base of the cell, a continuous discussion and authorized may of small immedia range, which are management and one of small immedia range, which are management and one of small immedia range, which are management and one of small immedia range.

Exposes : 25 mm.

Stonge : Coylors. South India to Karachit generally throughout India and extending

Ronge: Coylen: South India to Karachi: generally throughout India and extending into the Sham States in Burna.

\*\*South: The habits of this species resemble those of the other Skirpson sensembly.

This species occurs in the hills as well as on the plates, and is widely distributed. It is common all over trains and is found up to an elititude of 5000 feet on the hills of South linds. It keeps chee to the ground and often settles on gresses and leaves with the wings closed over the back.

#### Gerrus Gemalia Moore.

This grous includes small olive brown Skippers with marbied white markings above. They are popularly known as the African Method Skippers. The single Indian species and rose of this genus. Genetic elva athejazolois Moree, is represented in the Museum collection.

### Gomalia elma albefanciata Mocre.

The African Marbled Skipper.

Plate XXX, fig. 2. Specimens in the collection / Three, Nightle; 24 mm.

Description: of Q: The upperside is observed, overlaid with greecish heirs.
The upperside of the Scienting beam a narrow black bond within the discal area. Small, exculpropagent white profit are present across the cells and on the discal and asked

course. The convenies of the blad select beam a broad mental or central white hand from vets I to wan 7 and a fidet cele band near the marrin.

On the uzzlerside, the wings are pale brown, with the white markings more extensive. On the predecable of the forestor, the dorson is note. Emente: 25 mm.

Range: Caylon; South India to Poons; Sind and Baluchistan.

Holds: These recemble those of the other Strippers in ceneral. This is another scores.

but widely distributed species of Skipper. It has been recorded from the Niigiris, Poora, Kenners, Shad, and own from Roberhiston. It usually frequents dry and open country. It settles with the wings closed obliquely over the back much as in moths.

Subfamily 3, ISMENINAE. This subdensity includes some of the lacenet and finest members of the family of

Skinners Some exertise are brightly reloated. Their field is very said. They are creposcular in their habits. Bying early in the proming and again late in the evening. They are mostly confined to thickly forested country on the alopes of hills where there is clearly

Ever out of the flow known believes of this authorative are represented to the Museum collection

#### Course Manage Moore This generic name has been currently changed to Chrowais. This sense includes goderate sized Skippers commonly known as the Avis. The upperable is dark brown,

as unity assembled to the male. In the female, the unpenals of the forestrat bears pale yellow semilennespecent spots. The undecade is uniformly purple or tinged with green, sometimes with a consciouous nale band on the hind wing. Of the four Indian species of this genus, only one, Hazora elects (Fabrictus), which

is the commonant is remeasured to the Moseum collection, by the bested more about

The Conversor Barrieri Aut. unificated; white discal arests, and a releasts arest near the ener-

Hate XXX Dr. 3 Specimens in the collection: Six. Nilstrie and Melabar: 45 mm. Three of them are makes and the rest females.

Description / rf : The upperside of the forwains bears two fairly laces, involve-

# PI ATE XXX

| n¢. | 1. | Syrichtus galba (Febridae) (x 1 M).      |
|-----|----|--|
|     |    | Complex where a Budgastate Movembe 1 (4) |

- Nonero aleste aleste (Pabrichae) (natural sinc).
   Americ Inter foressent De Nicoville (x \*/.).
- Atmone John Jergussoni De Nicestile (x \*/<sub>4</sub>).
   Chosspes benjaminst (Guerin) (autumi stre).
- Bodonia suclamationis (Fabricius) (natural size).
   Sucatus greenius greenius (Fabricius) (natural size).
- Arnetin studhlana (Moore) (neturni size).
   Geopera thyrate thyrate (Politicism) (x \*/\_j).
- Taractroora maerius fiscus (Pelekkus) (r. 1 %).
   Arabita discorties (Pelekkus) (r. 1 %).
- 12. Tellosta augita augita (Linnarus) (t 1 14).
- 13. Telkota pythiau bambusan Moon ja 1 %).



2 : The underside is uniformly dark brown with a dull, steel-blue gloss. The underside of the bind wing bears a parrow, blaich white, diffuse, discal band and a black

#### Smasse : 45 : 50 mm

Runne: The regate of the species as a whole extends over the whole of India. Cavion. but the present race, alexis (Pabrictus), is the typical Indian form.

Habits : This is the commonest and most waichy distributed species among the members of the authorsity issuercines. It to found both on the hills and to the plates, to thick firest as well as open country. Its flight is rapid and fairly well sustained. It visits flowers and custs on the underside of leaves, but sometimes basks in the sunshine with

The members of this genus are now included under the genus Biberts. This genus includes fairly large, dark brown butterfiles popularly known as the Awieta. They are unmarked and uniformly dark brown above, and striped on the underside. The citia

Of the two Indian species of this evens, the commoner and better known one, the Orange Autet, Israene juing Moore, is represented in the Museum collection by the typical South Indian race, ferguagoni De Niceville.

### Ismene jaina ferguasoni De Nicevile.

The Orange Awlet. Plate XXX, Sg. 4.

Soveteness to the enderties: These South India: 56 pers. Their exact locality is not recorded, but they are probably from Coorg.

Description 1 of D . The unweighte is intelligible broads. The forested beam an crange costal streak from the base above the cell to about half way up the wing. The

offers friend on the bind wind been county strices along the veloc-The male bears an obscure dark sex brand on the upperside of the forestes.

Figure : The parents of the separter as a whole extends over South India to North Corpora-Caylon, Western Chais; Musecree to Sikkim, Assum and Burms. The present race is

confined to South India, up to North Carpers. Matrite : This species is found on the hills in thickly forested regions at low elevations. Its flight is extremely raped, and it is commonly seen flying around hill streams to the mornings and everings. It settles on leaves and visits some of the brightly coloured flowers. It is common in Coorg, but is now in other localities in South India.

# Gerrin Choaspes Moore.

This grouts was formerly better known by its sprotrymous azura. Rispolicouspie This grouts includes firthy large, dock breen buttering constrainty known on the Arthitage. The uppearable is dear klassis or purplish brown, more late ornelated with the grouts have been over the beautier. These serve pictors to go the size mediate with the growth have been over the beautier. These serve pictors to go the hand had not be finally served as the size of the property of the property

# Chosspes benjaminul (Gurrin). The Indian Authors

#### Plate XXX. nr. 5.

Spectroms is the collection: Two, one of which is from the High Rungs. Transmoors, (asked, 7,000 Seef.) is zero. The booking of the other spectrom is not recorded. Both of intens were originally bisched Mappiocomptic impoints beginning Courts. Apapiocompts being a syrongen for Checapee. The race benjamined Guerrin is the typical Indian race to which the greenest spectrages to below.

Description:  $\vec{\sigma}$ : The upperside is glossy and deep insign blue, overlaid with greenish hairs in the basel area. In young specimens, the basel hairs are purplish.

The upperaide is giveny dark green, overlaid with bluish grey below over the
 anal arm.

of Q On the upperside of the lated wing, the terms area and the cillary fittings are high to using up to the level of vein 3. The undereside of the lated wing is glossy green with the votes marked black and the terms area coloured counts.

Expense : 50 - 60 mm.

Surge : Coylon, South India: Palzis, Nightia, Coorg, Simia, Kulu to Assess and executing to North Burna and China. This is the range of the species as a whole, but the most benchmort Guarant, to which the research receivance below is confined to traffic.

Highlits: This species is confined to the hills at elevations ranging from 3000 to 5000 feet. It is mostly found in thick purgle. It is erepeased at its helitie and frequently viets forem and damp problems of ground,

#### Genus Badamia Moore.

This girror includes deck beyon butterflies with comparatively marrow and elongoistly triangular and produced forewings, popularly known as the Brown feets. The uppeakle

freedry bear sentrumsered while spots which on lover in the female. The underside to pale brown.

This group includes only a single, widely distributed species, and this is well

#### represented in the Museum collection. Redevis exclamationis Febricius.

# Plate XXX, flg. 6

# Specimens in the collection: Eight, Coorg, Paint 1988s, Nilgiris and Madrae; 51 mm

Description: of 9: The forested is elemented and narrow and anically conduced.

The upperside is dark brown, with the bossi areas of the wings much paler brown. The upperable of the forester beam elegater, white, semiturpenered, transversely elegated anote in the cell and in interspeces 2 and 3. These apots are larger in the female in which there is an additional and in interspace I b. The underside of the wines is note because on the undecaide of the hind wing, the tomus is dark brown, crowned by a whitish apot

Krospan r 50 s 55 sees. Rance / Throughout India, Burrea and Covices, and also extending to the Anthonorus and Northern China and Australia.

Highlight This species is easily recognized by its long, parrow forestors. It is found throughout India on the hills as well as in the plains, but is more commonly found in thick tunde. Its fight is very copid, and of a bounding type. It is usually preparation to hebits and frequently attracted to flowers. The males experimes settle on damp patches of ground, or on bird's depresings, and also back on leaves to the supplying.

#### SUMMERS A STANFORMAR

This subdirectly traductes resolven, alred brown butterfiles with white discularate on the forested, popularly known se the Bobs. Most of the species are rare and occur only in the more remote regions of North East Himslavie. The only common littlers errors of this subfamily is Sunstan, and this and the allied genus Ametia are represented in the Museum collection.

The uncertaint is dark become usually with paratrumaneous white anote on the Sorrwing and deck epote on the uzzlereide of the forwing. Of the two izzling species, the commoney one. S. personne is represented to the Museum collection by the tracked bedien race, greenius (Fabrictus).

# Place XXX. for 7.

#### Specimens in the collection : 5tx, Madras and the Niletria: 55 mm. Description : of 9 . The uppossible is dark bown, with semitracaparent cell and

envertigent brushes white, more or less accurate or rectangular discal spots on the forward. Small whate apical spots are also present in interspaces 6 - 8. The uppenside of the band what is uniformly busen, unmarked. On the underside of the forestor, the open and costs are grey, sometimes with a few bleck spots at the assex. But the most characteristic feature of this species to seen on the underside of the bind wine, which is brown, conclude with stoodsh or brown scales and bearing a number of sharply defined black apole. This furture distinguishes it from all other species of Sidopers.

#### Francisco : 22 - 42 mm

Moseum collection

Barrer : This is a widely distributed assertes, recurring to India, Burror and Crakes and extending even to South China, the present race growing (Palarhetus) being the typical Indian form.

Rablic: This is a fairly common species occurring almost throughout india where makes been abound. He filled is model, and it may be seen settling on degree setches of groupy or on lowes. Sometimes, the males bask in the sunshine. They also frequently actife on finance.

#### Genus Armetta Watson. Title genus constitutes another group of small Skippers, commonly known as the

Bules, more or less similar to those of the preceding evapa. The upperside is dark brown. with small, semitronsperent white spots on the forwing. There is one spot at the upper and of the cell, two discal exots and three missute spical spots in interspaces 6 - 5. The in the middle of the cell, and a double spot at the base of win 1 c.

Of the two indian species of this genus, one is confined to the Sikkim - Assam region. and the other to South and Central India. The latter species alone to represented in the

# Armetta vindhiana (Moore)

Plate XXX, fig. 8. Spectorers to the collectors : One, 31 mm. Its locality is not recorded.

Discreteling : of Q : The characters are more or less the same as those months and In the generic description shows. On the unpreciside, the exet meet the upper edge of the cell may be absent. On the environide of the hind wine, where the ensured colour in otherous brown or greenish octurous, the spots are obscure. In the male, the tuft increased in the other appelled to absent on the underable of the forestor.

## Expanse : 25 - 32 mm

Range: Southern India to Central India.

Matrice: This proclee is found on all the hills of Seath India, and Markov Procleeb. and must have also been recorded from the Vindhya mountains, as indicated by the amortile name. If assaults formers also hills country afters burston plants abound but If has also been collected from thick jungle on the slopes of the Nilgirle where the named.

#### to becove. It visits flowers and cometimes settles on mass and dry leaves. Subfamily 5. ERIONOTINAE.

This subfamily includes moderate or large-sized butterfiles commonly known as the Redover. The upperside in unmarked, or beam lazer, breiker, vellow enote on the forewing. During life, the eyes are blood red-a feature by which these butterflies may be readily distiruntished from the other groups of Sidocery.

A single genus, Gassayra, which includes the Otant Redeves is represented in the Masseum collection by the sole builtan species. Gampare thanks (Palartreas). Genus General Moore.

This genus includes rather large-sized, dark brown butterfiles, popularly known as the Glass Redrives.

The single lastice species of this germs is represented in the Museum collection by the trukul Indian race. Gungara (hursis thursis (Fabricius).

### Gangara threets threets (Fabricius).

### The Otant Refere-

Place XXX. fig. 9: Spectroms to the enfective Core, Malabar, 60 mm. This is 10 mm, smaller than the

minimum recorded capazine. Description : of O : The conversable to death observable become with loose more or into equatish or rhomboldal, semiltaneparent vellow spots across the cell and over the clared over to betercoores 2 and 3. Smaller actival mosts, also squartsh, are present to interspaces 6 - 8 that in interspace 6 being somewhat detached and not in line with the On the undereids, the forewing beam bittleb white scales at the spex and bands of singles scales on the bittle wing. The citie on the hind wing are give at the spex. In the male, the underside of the forewing bears a test slong win 1.

#### Emanue / 70 - 76 mm.

Range: The range of the species as a whole is faithy wide, extending over Coylon. South India and northwards throughout Central India and to Bondow and Calcutts. Stakan. Assum and Starms. but the present near dispute Observable is the typical Indias race. The Coylon mee's is designated Goupers thyrate obstakls, and is distinguished by the presence of a sexual opsays spot in wind 1 on the Soweking.

Habits: This species is creprecular in its habits. Sying during the early hours of the secreting and again late in the evening, seeing during the greater part of the day in sheltered attantions with the wings closed. It is found mostly in high, forested country where pain trees abound, these being the fool plants of this species.

# Subfamily 5. PAMPHILINAE. This subfamily trobules runal species of Skinners telephilina symmetric or models.

holds and are contractly known as the Grass Darts and Sectoh Hoppers. They fly close to the ground, in a weak, unsteady manner, setting Sequently on greas alsess or on Sowers. They also bank in the sursabline with the wing party opened. The Barras field on grasses. Two grown comprising the Grass Darts and Bosh Hoppers, are represented in the Measures codection.

#### Cenus Taractrocera Butler.

This genus includes small dark brown Skippers connectly known as the Grass Darts. The uppersists of the foresting bears small disculs point in interspaces 1 - 5, those in interspaces 4 and 5 being pushed outwards. The upperside of the hind wing also bears pair discols species.

Of the two species recorded from South India, only cree, the Common Orace Dart, T. exceeds: (Febriciae) is represented in the Massum collection, by the typical Indian mos,

#### Terestrocera maerius flaccus (Fabricius).

#### Common Orana Dart.

Plate XXX fig. 10.

Specimens is the collection: Five, Nilginia, 24 mm. One of these specimens in

procupieto: g' Q: The upperside is dark brown, with white discal spiets. The lower edge of the cell on the firewire places a sucress white steads. The discal spiets is uppersided to dark brown, with white discal spiets. The lower edge of the cell on the firewire places a sucress white steads. The discal spiets of the upperside of the hird where the engineers of the hird.

wind is restricted with dark references to whitish scales. The series below distinctly rate. The ground colour is whitish brown or greenish brown, and there is a goot in the middle of intersure 7, a cell apot across the cell and a apot in interspace 1 Harnes: The range of the species as a whole extends over India, Burms and Crylon,

#### Employe : 22 - 25 mm

but the present race, flancou (Palerbridge) is the tembral ledien race. The Coulon race is designated as 7, moreous moreous in which the underside of the bind wing is overlaid with dark orderesss scales and the wins are colourless. Hobbig: This species is locally common in certain areas and is widely distributed. It

present all core locks to stressland and recodens unto an attitude of 5000 feet. Its bubble are more or less the same so those of the Grass Darts in general, described for the audiforethy Parametrinan.

#### Genus Ampitta Moore. This genus includes rather small, dark brown Skippers with opeque yellow markings

on the upperside of both the wtors. They are commonly called the Bush Hoppers. The underside of the hind wing is either yellow with small block spots, or dark brown, with vellow roots.

A single appeles, A. dissporters (Painteles), which is the only species of this senus common in India, is represented in the Moseum collection.

#### Amelita disesseidas (Fabricius). The Bush Hopper.

Pinte XXX, Sp. 11.

Specimens in the collection: Two, one from the Migiris and the other from Palmey Hills: 24 mm.

Description : of . The upperside is dark brown. On the upperside of the foresting which bears a see brand), the vellor markings are very wide. There is a committee long discal spot in interspace 1 b. The entire cell and costs are yellow to beyond the middle. The discal mosts in interspaces 2 on 3 are connected to form a large units. The spicel with the vellow costal sees. The supervise of the hind wind bears a broad, vellow discal area, traversed by durk wires. The understile of the lated what is vellow, with faint block

This is very variable as a rule. It is similar to the male, but with the vellow souts usually much smaller in size.

Expanse : 22 - 25 mm.

Stange: Cepton, Pentassalar India, Bengal, Stikkim to Assam, and Burma, and extending also to Malay pentassala rand China.

Habits: This species is easily recognized by its characteristic brown and yellow colour priters. It is usually found in pady fields, but it also occurs at low elevations in occur occurs, thing reside among business, close to the ground.

## Subfamily 7. ERYNNINAE.

This authority technics small or moderably small butterfite popularly known as the Darts. Darticle, Area and Heightoppers. The uppersist is usually hrome, with a tearny pelitor hard on both wings, or marked with small, sentimesporrent or energy spots. They cover mostly in the Jungle, perfecting the shaded of trees and handes. The larms find on Grasses and Randone, All the the known common Indian genera of this substitution are recreased in the Massem collection.

# Genus Tellecta Moore. This senus was formerly known as Astuchas. It includes moderately small, dark

brown Skippers, with an crange discal band on the upperaids of both the wings. The fereing also been a central block hand within the discal band. These are commonly called the Felm Barts. Their food plants are the sugar Care or the Bamboo. The male bears a sax brand on the forming.

Both the known Indian species of this genus, namely Telecon captus and Telecon publiss, are represented in the Huneaus collection. They now appear to be treated as forms of Telecon confile which is a servoure for T. maista.

# Telioota suglas suglas (Umnasus).

The Pale Palm Dart.

Specimens in the collection : Two, Bangalore, 32 mm. The smaller specimen, measuring 30 mm. is 2 mm. smaller than the ministrum recorded sowners.

measuring out one, is x man, amount men the minimum recorded expanse. Decorption x of S. The uppersists induck bowers on the upperside of the forewing three is a yellowish or orange-yellowish hard of connected upon in indeespaces 1 to 5. The yellow of the discale hand on the forewing is continued on to the margin, through the dark brown, before a toke useful with. The outer edges of this discale upons are also deeply and the first of th

constituted. A group of commented apixed apixe are present to interreperce 0-0.

The uppercision of the limit wing bears a spot in the cell, connected with the base by a yellow streak and a bread, discall yellowish head of connected spots in interspecce 1 - 4 or 7. The understated is dark forward with the spot and costs of the favering and the percentage of the cell.

hind wing overled with otherway or dark brown scales.

#### The mole bears a broad erry are brand on the former

Emanae : 32 - 35 mm.

Expanse : 32 - 35 mm.

Rayer : This is a widely distributed species, manifest over India, Covica, Sikkirs to

Burnas and extending to Calms and Makey Pentissells, but the present race, oughts (Limanus), in the typical indice mee.

It is a present race, oughts (Limanus), in the typical indice mee.

It is a present race, oughts (Limanus), in the typical indice mee.

It is a present race of strong and rapid filippers copable of strong and rapid filips. The scale foresurable on larves. It is commonly frum in coors country. The food

inger. They seem requiring on issues, it is commonly build in opin country. The soplest of the larves in Sugar Care.

Tellicots pythias barelesses Moore.

#### The Durk Pako Dart. Plate XXX, fig. 13.

Specimens in the collection : Seven, Pulney Hills and the Nilgiris;33 mm.

Description:  $\vec{\mathcal{G}}$   $\hat{\mathcal{G}}$ : This species, which is commoner than the preceding one, respectively in the preceding operation, but the markings on the uppenside are much slocker compe them in their species. On the upperside of the forewing the outer edge of the expressed discal spots are hardly examined and the yellow is not continued along the waits access the deck border up to the terman. The underside is more or less similar to

that in the preceding species.

The sex board in the mole is darker and nervower than in the preceding species.

Expanse: 34 - 36 mm

Storge: The range of the species as a whole extends over Crylon, India, Burma and even to Andenmes. Store, Crims and the Mulay perlossile, but the present race, bowhases Moore, is the typical indion more. The Mulay Praincular race is designated polylon.

Hobbis: This aspecies is generally found restricted to the hills and forested regions where the naidall as hirly heavy. This habits in general are the same as those of the preceding epocies, but their food plant is the limited instead of the Sugar Cane.

General Orient Dunn.

This ginus was formerly known by the more familiar mann, Microfilen. It includes they, dark brown Ekippens with tower markings, popularly known as the Dartiets. The markings take the form of possinors is very direct bends on both the wings. On the uppreside of the forewing the lower part of the tawny policy direct bend is central.

upperside of the forewing, the lower part of the taway yellow discal band is central.

Of the two Indian species, the common and more widely distributed one, the
Common Darliel Origin and Montal along its represented in the Montan policetion.

#### Oriens gols (Moore). The Common Dartlet. Place XXXI. fig. 1.

Specimens in the collection: Three, of which two are from the Nilgiria: 26.5 mm. One of these specimens is incomplete. The locality of the third specimen is not recorded.

Denotybino:  $\tilde{G}^0$   $\tilde{Q}^1$ . The upperside is duck brown, with issury markings. The uppenside of the feering larms a thorny discal band, companed of conjusted spets. The costs and base are dark. The spiral apolt in Intempores 6 - 8 are more or less contented to the discal band, by an intervening discal apolt in Interpores 8. The uppensive of the hind wing been a broad, continuous, begint competitional, but there is no apolt in the cell or in Interpore 9.

On the underside, the costs and apex of the forwing and the entire surface of the hind wing are yellow, or despending to counge. The discal band on the hind wing and the upper part of the forwing bear black spots. Expanse : 26 - 28 mm.

#### Expanse : 20 - 28 mm.

Nange: Coylen, South Selle, Sthian to Burms, Andersens, and extending even to South China and Makey Perimeds.

Mabits. The habits in general resembel those of the other normbers of this aubituals. This species occurs in the ferested regions having ploonly of raisfull, up to an abitude of 6500 feet. It keeps mostly close to the ground but its fight is rapid. It often visits flowers and also settles frequently on leaves and heigh.

#### Genus Padraona Moore

The name of this genus has been currently changed to Petanthau, but the better known generic name. Pedroone, is still retained by many authors for convenience.

This genus includes small, dark bown Skippers, with twenty yellow markings on the upperside and popularly known as the Daris. The lower part of the tawny yellow discal hand on the upperside of the forwing is discal, and not control as in the proceding genus. Orienz. The upperside of the first wine bears a root in the coll.

About four or five species are common in India. Of these two alone are represented in the collection. The expansion of the species of this greated posterior characters is actremely difficult, as many different species tred to look also allow allow. The record of Podrozor monocolder from South Indian in the present collection appears to be new, see this species has been higher to regarded as a Burnase species.

|    |    | PLATE X                      |
|----|----|------------------------------|
| De | 1. | Orienz poin (Mount) is 1 M). |

- 2. Padruova dara pseudomoreo (Morei Ix I. Vi).
   3. Padruova macaoidee massoidee Dutter (x I. Vi).
  - Hulpe overshold Divaria 1 16.
     Hulpe overst Watson is 1 16.
  - G. Holpe homolea egena (Frider) (x 1 16).
  - Baracus etitaus subditus Moore (x 1 M).
     Baracus homesont Elements 1 M).
  - Baracus horopsont Elwes ix 1 '65
     Baaris kansara kansara Moore (particul size).
  - 10. Boarts strengts subochraces Moor (x 1 %).
    11. Boarts mathias mothics Fabricias (x 1 %).



# Padrages dare providensares (Movee).

Plate XXXI. for 2

Specimens in the collection / Three, South Coost, 25 mm.

Description: of 9: The opposite is dark brown, with pale yellow markings. These markings are very norms. The unverside of the bind wind bears a snot to

interspace 5, but there are usually no spots in interspaces 6 or 7. The undecable of the hind was is only willow, sufficed with block sonline, and with the discal hand edged with

The wet season form is distinguished by the markings above and below being

darker end broader, the dry season form being much paier. Errorage : 27 - 50 mm.

Range / Hispalawae, from Chitral to Kurason, and the pleins of South and

Mobile - This species is received in the set forested above of the Idlia of South india. Its habits are more or less similar to those of the species of the preceding CROWN Oriests.

Wynter-Blyth, in his mercanych on the Butterfiles of the Indian Region, treats the former being exclusively confined to the Himmissus (above 6000 feet), and the letter repetur over the lower Himsleans on well on the plates of Cevien and India. The differences, however, are so slight and toolgaffount that it seems more convenient to retard them all as balanctor to a storie race of the species P. doza.

#### Pedyeona marcoldes marcoldes Butler.

#### Hale XXXI. for 3.

Specimens in the collection: One, Trivondrum, 25 mm. Evens, in his "Identification of hadian Sutterflier' receives "Deserve to South Burres" as the range of this species but it appears to actend to South India also, as evidenced by the present single record

Description / If 9 : This species is more or less similar to the preceding one and difficult to be separated from the latter by any easily recognizable character. The yellow markings on the upperside of the forewing are moderately narrow. The costs and been of the cell are arbreves, with a black afresh in the refl. The protection of the bird wind beam yellow, connected spots in interspaces 4 and 5, extending to the middle of intercepted 3. The underside of the hind what is nonewhat dark orderous with the disculbend showing through conspicuously without any black spots

#### Economic | 24 - 25 mm.

#### аграние : 24 - 26 п.

Stange: The range of this species, as originally defined, extends from Dawnas to South Burms, and to the Makey Frantscale, but the record of the present specimen appears to ignificant that its array extends also to South holts.

Makits : There are more or less the same as those of the preceding species, but this species is rare and does not appear to have been recorded earlier from

# Genus Halpe Moore.

This genus includes small, dark breves shippers commonly known as the Aces, with small, issustanguagement white or yellow threat, agical and cell spots on the forewings. The uppersist of the Intri wing map be unspoted or may been a yellow discal patch. The undersitie is dark brown, and usually with a pole central band on the undersitie of the hind wints.

Several species of Histor occur in India, but of these only about six appear to be common, and sensing them only three species, all of them occurring in South India, are represented in the Masseum collection.

Makes averaged Distan.

#### The Pakest Ace. Plate XXXI, Sg. 4.

Specimens in the collection : One, Pulney Hills, 33 mm

Description :  $d^*Q$ : The upperside is dark brown, with small yellowish spots on the forwing. The spots in the cell-are accelland separate. The underside of the hird wing bright places yellow probable from with the based and negripal areas darker, and bearing a discoil own of small, diffused bitted spots. A narrow strip of the underside of the forewing is dark reddish brown.

#### Expusse : 36 - 37 mm

Songe : Pointy Hills and Transacces in South India.

Mahitz: This species is rether race. This and the succeeding species of Heigenear one clean satisfies in their habits. They inhabit forested areas on the hills of low elevations where the related is neary. They fir replify and usually high above the ground. They are generally shade-loving species and often rest on lowers and flowers.

# Halps meorel Watson.

Pinte XXXX, fig. 5.

Specimens in the collection : One, South India; 30 mm. Its exact locality is not recorded.

whitish submerginal spots from interspace 2 to the costs.

Description  $t \in \mathcal{G}'(\mathbb{R}^n)$ : The upperside of the forewing beam an upper and lower call apot. The underside of the kind wing beam a broad, continuous within beam does the middle of interapose 1 to the spec. There are also connected upon to interspaces 0 and 0, axiall white upon in interspaces 0 and 0 increasingly beyond the beach and could interspace 0. In the continuous 0 in the problem of 0 i

Expanse : 32 mm,

Ronge : South Indie: Coorg, Niigiris, North Canara, North Indie, South Bibar, and Sous Museocree to Burma, and extending also into the Andamara.

Mabits: Those are more or less similar to those of the preceding species

Halps homoles agens (Feider). The Outloy Ave.

Plan SOUL for 6.

Stemburns to the collection A starts, unfortunately incomiets, specimen from the

Nigirie: 30 ram. It was originally ishelfed Halpe homeless orgionics Moces, but closer screamy reveals that it is more correctly referable to the present form. Tale form is described by Wayter-Hight has a distinct species, opens, but this is new regarded as a race of Halpe homoles, (Howtners).

Description: g' Q : The supersidis is boson, that of the forestrap bearing small, screening sources with claim a point is interspence in and X, an upper outle spot, and there or these small apical spots. The superside of the bird wing is uniform and surpeitted, the control amon being point recent. The surfered set of the bird wing is pencish brown with pulsy yithout discal bent and merginal spots. The surfered set of the bird wing is pencish brown with pulsy yithout discal bent and merginal spots. The scale bears a sax bears on the surpeints of the first wing.

Еприяве : 32 - 34 mm.

Range : Onylon, South India; Travencore, Pulney hills, the Nilgiris, Coorg, Brogalore, Wynaed and Canara.

Hobits: This species is found in somewhat drier and more open type of country than most other species of Holge. It is most common up the foot hills of the Nilstria where larve

I N.H. VII, NO I

#### Gerras Barneus Moore.

This genus includes deck brown Skippers commonly known as the Hedge Hoppers. The underside of the forestral bears small, resign-vellow discal spots, and irregularly Suracus officerus audulitus Moore

#### The Horist Houser Note XXXII for 7

Specimens in the collection : One, Nilgirlo: 28 mm.

Description: of 9: The suppossible is dark brown, with very faint, openus vellow discal annis in interespona 1 is to 3 and anical anels in interespona 6 to 8. On the underside of the hind wing there is a well marked, pale, central streak, and size a pale streak sizer win 1. The ground colour on the undensite is brownish orderous. The screens race in the trainal South Indian race, but in the Ceylon pace, attutus Pelder, the cell and the lower discal area and almost the whole of the hind ware on the upperside issued the costs and terminal areas) are overlaid with grayish othercus scales.

#### Empare - 20 - 24 mm.

Range / The regale of the exector as a whole extends over Covice, Nüriria, Pulpey Hills. Travencore, Assem and Burms, but the present more authitus Moore, is confined to the hills of South Indian (Nigirls and Pulpey 198s)

Hobits -This species is confined to the hills at moderately high elevations (above 2000) feet). Its flight is week, and it usually keeps close to the ground, but it ventures out total

#### Barness hasspaoni Elves, Histopeon's Hedgebopper.

Plate XXXII, fig. 8:

Specimens in the collection : One orther badly preserved and incomplete specimen

Description : of 0 - The committee is durk horses. On the committee of the forwing the ochroson spots are prominent and the costs is overlaid with vellow scales-The unpareide of the hand wine is unathorn and unpartied. The underside of the forestor is bright ochreous over the costs and the spox, this otherous area being strashed with brown between the veins, the remaining area is black. The underside of the hind wingbears large becam and yellowish brown spots.

Expanse : 25 - 32 mm.

Range: Western Ghala, Coorg, Niights and North Cames.

Hobiz: This species is confined to low elevations in the Nilgiris and hills of the Western Ghata. Its flight is weak and shenys close to the ground. It keeps mainly to the shady ports of the jungle where the raksful is heavy. This species is now regarded as a low silting were of it sitting.

# Subfamily S. BAORINAE. This subfamily includes movily dark brown Skippers, popularly known as the eieffa. Inhabiting, as a rule, thick lurgie with beaver minfall, although come species may also be

formed on open plains. Their flight is powerful, and when at rest, they keep their wings closed over their backs. They also visit flowers. Their food plants are the Grasses and Bamboos.

The majority of the Indian species of this wablemily belong to the genus flooris, which alone is reconsected to the Manager collection.

#### Occurs Barrels March

The uppension is dust known, with the bases of the wings often overheld with ochrows hire. The uppermission of the forward peans sentimensurement white or pea plane discovering spots in interruptors 2, 3 and 4, and sentil upped appeal in interruptors 6 to 8. The uppersible of the lard wing is unconsisted, or with the appeal on the understood solvaring through. The understood of the forwards other bases a pain fill defined discovering the constitution of the constitution of the base of the constitution of the cold, and constitutes a third law of access.

This is a large gentus, comprising about Swintern bidden apocies, most of which are known to occur in South india and Crylon as well. Some of these species have now been separated into distinct general such as Rigoroms, Pelophian, Purriano, Berlin etc., but as the officers as about the bosen of these transfers of distinct in the consent.

separated into distinct general such as Physicism. Propasts. Pursuse, Bodie etc., but as the differences are slight, they have all been treated as species of Booris in the present account for cognessismes.

Out of about a dozen species of Booris recorded from South India, only atx are

represented in the Museum collection.

In the following descriptions, the emphasists according to the latest

In the following descriptions, the equivalents according to the latest generic nomenclature are mentioned within brackets undermeath the respective specific involvings.

#### Reorie kumara kumara Moore. (e Caltorie kumara kumara (Moore). The Blenk Swift.

The Blank Swift. Plate XXXI, fig. 9.

Specimens in the collection: One, Nilginis: 40 mm.

Description: g': The uppenside is dark brown. The spots in interspaces 4 and 8 may be absent. There are no est broads.

may be absent. There are no seek brands.

O : The upperside of the scenning is dark brown, with a white spot in intempace 1

b. In the male, this spot may be present below as a diffuse spot.

 $\mathcal{O}(Q)$ : The upperside of the blad wing is never spetted, and its underside is necessity unspected, but if spetted, the spots are present only in interspaces 2 and 3. The upperside of the Scientific beam so apatic in the coft.

### Expanse : 42 - 45 mm.

Rouge: The image of the species learners as a whole is very wide, extending from Coylon, through the Western Ghais, the Nights and other hills of South India, to Cakouts, Sidalas and Jesum in the North, and even to Burner, but the range of the more kensors in restricted to South India up to North Cleases.

Abbits: The accretion is resumed in the Held of South India and an the Western Chais.

It occurs up to an altitude of 6,500 feet in the Nilgris. It usually prefers abody and abstraced abstractions and is creposcular in habits, but it also wentures out in the sunshine when visiting flowers.

Baserie atmends subsolunces bloore

> (\* Pelopidas sinemais subochraces (Moore). The Large Banded Swift. Plate XXXI. for 10.

Spectmens in the collection : Seven, Malaber and the Nijgirle: 35 mm.

Description:  $\int_0^t Q \cdot \Pi n$  upperaish is don't horsen. The upperaish of the forwards been the coeff inpolt. The understand of the hind weigh or united with greenalsh oldenous or graphs scales, and home promisent withit upon in interspaces 2 to  $\delta$ , and in the cell, and the coeff is easier of them are posite naturally when through the the upperaish of the properties of the properties of the properties of the properties of the form of the properties of the form of the properties of the form on about 10 m the upperaish of the formula horse as pot in historypee 1 b and a second smaller one about 10 m the upperaish of the formula.

Espanse : 38-42 mm.

Rongs: The range of the species son whole is wide and extende from Ceylon, through the Pulmy little and the Nights to Coop and North Cranen and North India from Assam and Bengal to Southern Shan States in Burms, but the peacest race, subschraces Moore, is confined to Ceylon and South India up to Bengal.

Mobils: This species is confirmd to the hilly regions where the rainfull is heavy. It is very similar in its habits to the next species, from which it may be distinguished by its larger size. This is also not as common as the next species.

Binoric mathian mathials Polytiches.

## (Pelopides methics mathics (Febricius)).

an Branded Swift.

Plate XXXI, fig.11.

Specimens in the collection: There, two of which are from Madras: S2 man. The locality of the third specimen is not recorded.

Description  $r = q^2/Q$ : This specim is very similar to the preceding one, but smaller

in else. The upperside is dark brown. The while spots on the upperside of the forestigner often small. The underside of the hind wing bears white spots which are very small and worked in number. Describing there may be a full occupients of spots from

and waying in number. Sometimes there may be a full complement of spots from interspaces I b to 7 and one in the cell, but cometimes they may be steemt alsogether. The upperable of the hind wing is usually unmarked (so in the present spectages), but

Espanse: 32-38 mm

Storge: The range of the species as a whole extends over India, Burma and Ceylon, but the present mon, mathias Fabrician, is the typical South Indian mon.

Nabils: This is perhaps the commonset species of the genus Barets, occuring in all types of country. In the hills of South India: It is itsued from low elevations up to an arbitode of 7.000 feet. It effers restricts out 1000 his countries are with statis flowers or rests on lowers or on the growns. It is exempt entered to habits, being active early in the mornings and appoint late in the versings.

Baccis gettatus bada Mocco. (« Parnara guitatus bada (Mocre).

The Straight Swift

Plate XXXII, Sig. 1.

Superinces in the collection Six infinitely use in transmitted from Marina. Nightin and

South Coorg 33 mm. The specimen from South Coorg is larger and darker bown than the seat.

Discription:  $C^{\frac{1}{2}}$   $C^{\frac{1}{2}}$  This uppersible is drief from T. The uppersible of the forwestly boars hybride, overlay passed while spots in histograces 2.8 and 4. There is no spot in the cell or in interspece 1 b. This wides spotting on the uppersible of the histod wrige to workship. The unstands of the histod wrige is unable histograces of and 5 and offers also in the tempersible of the histodynesis of the histodynesis of a most part of the histodynesis of a resinged in a strength, gradually are proposed to the control of the proposed and the point of the discription of the proposed and the point. The discription of the proposed are shown in the proposed and the point of the discription of the proposed and the point of the discription of the proposed and the point. The discription of the proposed are proposed as the proposed and the proposed are proposed as the proposed and the proposed are proposed as the proposed are proposed as the proposed and the proposed are proposed as the proposed are proposed a

#### Eventure : 32 to 36 mm

#### Parent - The range of the species as a whole extends over Certion, India and Bures.

and even to Makey Peninsula and North Ametralia, but the present race, bada Moore, is the typical South Indian form.

Highto: This is a common and widely distributed species of moderately small.

Skippees found only at low elevations on the hills. But the race guitatus, which is the Himshayen form, is a typical hill variety occurring up to an altitude of 0.000 feet. The habits of the present species are very similar to those of the proceding species.

#### Baccis Zelleri colace Moore. («Borbo cinnara colace Mooce.)

# The Rice Swift.

Plane XXXIII, Sig.2.

Specimens in the collection: Score, Marless, South Coorg and the Niighte. Stage.

Descriptions J of P. The supposable is data between. The supposable of the forwards abstract boxes a complexeous which again in Interspect is A and the white tap point is the code. The supposable of the hald whigh is usually surranded or these may be one to three statuth report. The sunfarished of the hald whigh is unashly surranded or these may be one to three statuth report. The sunfarished of the hald which give the surfaces A contains the discussion of the surfaces A contains the discussion of the surfaces A contains the discussion of the surfaces A contains the surface A contains A con

#### Eventous : 20 - 25 mm

Range: The range of the species as a whole is very wide, extending over Ceylon, India, Burma and even to the Andarana, Philippanes, Malay Pennaula and North Australia. The present race, colors Moon, however, is the typical form occurring in South India.

Mahits: This species is common at low elevations, but may also occur sparsely at higher elevations up to an attitude of 4000 feet. Its habits are more or less studies to those of the Small Beauded Swit.

### Basels bevani bevani Mosce. (e Borbo bevani bevani) (Mosce)

Plote XXXII, fig. 3.

Specimens to the collection: One, Nigris: 28  $\max$ 

Descriptions:  $f \in \mathbb{R}^2$  is the exponents in rether paids frown. The uppension of the interrupts Dara is the interrupt because which each interrupts of Data in the force of Data in the description of the interrupts of Data in the present. I but now constitute is always and the interrupt of Data in the present. I but now constitute is always and the interrupt in modify whether of the interrupt of Data in the paid in the present of Data in the paid in the paid in interrupt of Data in the interrupt of Data in the Dat

# Expurse: 32 - 36 mm. Roser: This muse of the species as a whole is wide, extending over Covins.

Peninsolar India as well as the Himsleyne from Morras to Assem, and Burna and she to the Antennam. Nicobars, Makey Peninsola and the Philippines - The person free, becami Moore, is the typical Indian form.

Habits 'This section is locally common, before found both on the bill and in the obtain.

it disquently visits flowers in gurdenk, and the northern form is reported to be quite common in the hills of Sizala and adjoining areas at elevations of about 7000 Seet. In South India, they appear to be more common on the Nightle.

# Subfamily 9. NOTOCRYPTINAE. This architectic technique a large assemblator of duck busines Skitzeres (known workunds

as Dezsons. Coms. Filters, etc...lothes very warted to the end appearance. They frequent thickly furnested country, where they keep mostly to the heavy shade of the trees. Their focul plants are all memorohydelerous plants asked as Grassees. Palms and Plantship.

Four out of the five Indian genera of this sublently are represented in the Museum effection

#### Genus Notperveta De Niceville.

This genus trackates black Shippers of medium also, commonly known as the Sunded Demons. The upperside of the forewing beam a broad, slightly curved, bysales while discuss based. The underside is durit brown, with the apical zero of the terrethral margin of the forewing bearing withs scales. Striller white scales are also present on the terminal and raddits area of the brief with. .

The anterests are white, headed below the prostead region of the clab or only streaked with white below.

Only two anotice are recorded from South India and Certon, and both these are

represented in the Museum collection.

Notocrypta paralyses alysis Evens.

# The Common Banded Demon.

Specimens to the collection One. 38 upp. The exact locality of the aportions to not

Described.

germs described above. On the upperside of the foresting, the broad, hyaline, eligibly curred with discul band is president. There are no apical white spoks is interspaces  $\delta$  –  $\delta$  on the foresting. A proximitent apot is present in the middle of interspace  $\delta$  on the foresting. A proximitent apot is present in the middle of interspace  $\delta$  on the foresting. On the underside, the white scaling is conspicuous.

#### Expanse : 33 - 40 mm.

Stonger The ranges of the species as a whole invery wide, extending over Orgine, flouthinstité, Western Collete to North Carazar; in North India, along the Himslayes, from Musicones to Assess and Karana, and extending twee beyond technic limits to Surran, Jews, Dermo and Andrianans where other more of this appeals have been recorded, but the present row alogical Stones in the typical limits non-

Mobils: This species is restricted to set evergines firests where they lobable the soce abstituted and shely parts of the jungles. They by does to the ground, but powerfully and repitity, ellhough that fight is not a unished for any length of time. This species is much least examines the site has been pooled, but occurs plettiking in Copies and Coope. They are found to the contraction of th

Notocrypta curvifuscia (Felder). The Restricted Demon.

Plate XXXII, Sg. 5.

Specimens in the collection: Four, three of which are from Trivendruse, South Coorg. and Coorg. 35 mm. The locality of the fourth specimen is not recorded. The specimens

and Cong: 35 mm. The locality of the fourth specimes is not recorded. The specimens are in a rather poor white of preservation, two of them being incomplete. The specimens are in a rather poor white of preservation, two of them being incomplete in the preservation f, f', Q'. The observations are more or less the same as those described for the origin above. It closely recordable the presentant specimen above. It closely recordable the presentant specimen above.



# PLATE XXXII

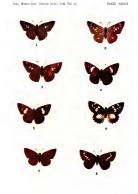
Fig. 1. Basets gatinius basis Moore (natural sine).

2. Basets zelieri colona Moore iz 1 %).

Barris beward beward Moore (x 1 %).
 Motorrypta porelyses objets Evans (natural size).
 Motorrypta carefuscium (Pakket) (natural size).

Moneygon correptants (Passer) (natural size).
 Udinepus folias (Crusser) (natural size).
 Suncus pulligo subfonciatus Moore (natural size).

7. Sonous pulligo autylenciatus Moore (sustural et
 8. Jarefete estada întripotpus Plota îx 1 %.



from it by the presence of agrical apots on the foreving and by the white discoil band on the upperside of the foreving being not continued up to the costs. The agrical apots on the foreving are conjuined. The withe sporting on the upperside and the white scaling on the underside of the wings are promised.

or the underside of the Wings are prominent.

Expense: 38 - 50 mm.

Rappe: Cerkin, South India, Western Ghats to North Canara, Message Museuments.

SIGNAP, Assets and INFIRM, and extending to the Many Personals.

His biblis: This species is more common than the preceding one, but sweambles it in its biblis. It occurs abundantly on the thickly forested shores of the Western Glade.

wherever the minfall is brown, especially during the monocon.

Genus Udaspes Moore.

This crosss includes medium alared, dark forcess or black Shinners with here, where

markings on the wings. They are popularly known on the Gross Demons. The upperside is don't known, with large, white, sentimasperent spois. The undecade is don't known, itsually with some whitish acading. The antennes are white, bended below the club. The stands indice species, districted for Ground; is recreased in the Museum.

The single incises species, companyons (crimine), in represented in the Museum collection.

Masses folus (Crimine)

#### The Gross Demon. Plate XXXII, Eg. 6.

Spectmens in the collection of the of which one is from Oochan and another from the Property (Elici 42 sam. The exact locality of the other three spectmens is not recorded, but they are also probably from the hills of Sporth India.

Description:  $\mathcal{O}_{i}$  S<sub>i</sub>: The upperable is black, with lengt, wither, sentimensparent point. The upperable of the favored point an appeal errors the relic connected to the best spot to interrupe S<sub>i</sub>: Outstanding point, the black spot to interrupe S<sub>i</sub>: Outstanding point, discall appear to interrupe S<sub>i</sub>: Outstanding point, discall appear to the point of the spot spot of the black whigh there is a long, white, restriction point control or executing the temperable of the black whigh there is a long, white, restriction point control or executing the temperable S<sub>i</sub>: The underside is disc, forwar, overlead with with restriction the appear (1 the forward part of out the discuss and former of this land wing. The Children's limited to the specific to forward part of our this discussion of the restriction of the specific to forward part of the specific

Expense: 46: 48 mm.

Sange: Coylon, South India, ranging northweeds to Southay, Central India, Calcutta
and Lardrows, and also in the Himplanes, from Sanges to Southay and Parina, and

extending also to Chins and Makey Pentassia,

Priority in habits of the species. In general, resemble those of the pursus but it requests more open-country on the slopes of the jurgles. It may also occur on the plates. It tuessily files close to the ground, beeping mostly to the shade, but it is not uncommostly seen loaking on lesses and stones in the suindlike and visiting dowers. It prefers the vicinity of water, where it may retriet on champ protries of the ground or on shones.

# Gerss Sancus De Niceville.

This grouss inclusion dark, glossy brown skippers, with uniform, unmarked wings. They are commonly known see the Coops. The underside is palet brown. The single indian species of this genue, Summa public (Mebilis), is represented in the

Mineston collection by the typical leditor mos, subjections of the Mineston collection by the typical leditor mos, subjections by the office greats has recently been changed as Paulos, but the sider and better known name, Sancae, has been retained in the present account for convenience.

#### Sancus pulligo echéasciatus Moore. The Coon. Pieto XXXII. fiz. 7.

was xxxii, ng. v.

Specimens in the collection One, Molabor: 25 mm  $Description := rf \cdot \nabla : The upperside is dark glossy brown, uniform and unmarked.$ 

The transimode is price twome. On the transmission of the ferroster, the decrease in pair, and the price tears is recovered eldings, respecificly, grey pairs. Since the other latest in embedding of price are also present in monitoriate as in it. The understand of the book wings in pair books, with finishing transimoding copies for also the central and manifest transition price for the central and manifest transition price for the central and manifest the price for the central and manifest the statement of the central and manifest the statement of the central and the statement of the central and the statement of the statement of the statement of the price of the province.

## Espanse : 36 - 46 mm.

Runge : The species as a whole is widely distributed, ranging over South India, Western Gharia, North India; Asson, Cachar to Burma and coloroling to Siam and Nalay Peninsulai. The present non-auditactions Moore, is the typical Indian race.

Hobits / This species occurs a fundantly in the evergreen ficests of the Western Ohats during and ofter the measons. Its flight is very weak and unsteady. It always issue since othe ground, resting on leaves of low-growing bushes. It generally prefers already places in the forest.

#### German tambels; Watson

This genus includes dark brown Skippers, sensity of small size, often with some courge scaling, popularly known as the Chestuat Bobs. Normally, hysikus a pota acc

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absent, except on the upperside of the forwing in the female of the common indien species, solegia (Moore). The undereide of the hind wine bears small, eithery spets.

The single common indian species, insists solution (Moore), is represented in the Museum collection by the South Indian mee, Intelnature Plate. Tambete salasia betelesiene Diete.

The Chestrust Bob.

Minter XXXXIII Ov. 8. Specimens in the collection / Two, one from Garden and the other from Malabar.

Description - of . The conservate is durk horsen, with some durk orderess conservascaling. The upperedde of the forwing beers a more or less complete row of orange discal

9 : The supposside in poler brown, with a similar series of semitransparent spots in

intercourses 1 to 8, best these are white trained of better owners and the row is bent

of ♀ On the underside the costs and spex of the forwing and the entire surface of the hind wing are densely overlaid with course brown scales. The undenside of the hind

wing bears black-adged alivery spots of which the one in interspace 5 is larger and more prominent. Expanse : 26 - 30 mm.

Roser / The roots of the species as a whole extends over Covice. South India.

Calcutte, Sticking, Assem and Burms, and to Malay Protosula, but the more intripulpus Plate, to which the apertoens to the collection belong, is confined to Cevian and South

Mahitis : This is a very common exertes of Skitzeer recruited on the fivested alreas of hills, wherever there to heavy retrifull. It usually prefere shady attuations, and keeps close to the executed, frequently settline on leaves of low executor bushes. It has also been

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